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# THE INTER-OCEAN

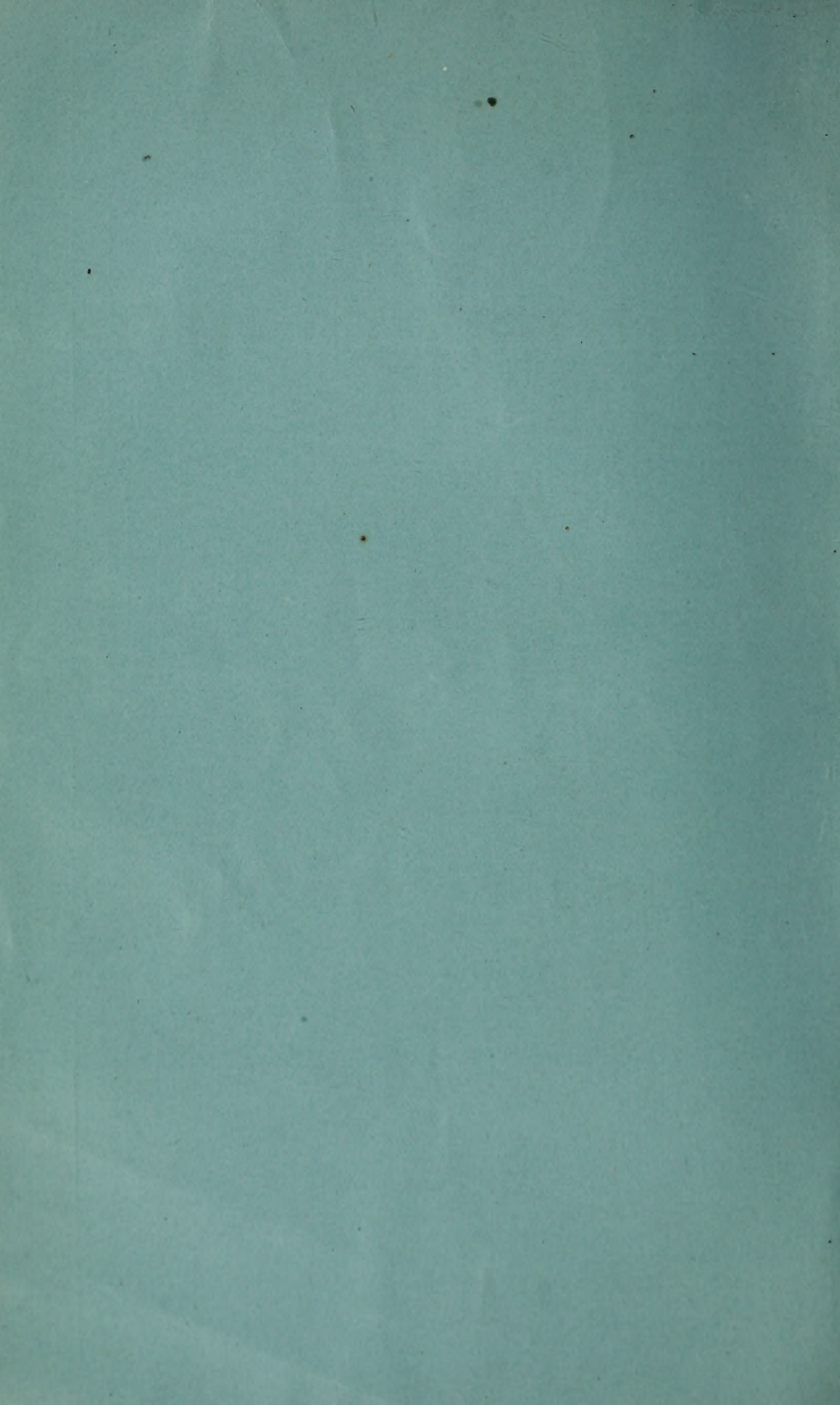


## CURIOSITY SHOP

EDITED BY  
THOS. C. MAC MILLAN.

INTER-OCEAN PUBLISHING CO. PUBLISHERS  
CHICAGO





THE INTER OCEAN  
CURIOSITY SHOP

FOR THE YEAR 1886.

EDITED BY

THOMAS U. MAC MILLAN, A. M.

FIRST EDITION.

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THE INTER OCEAN PUBLISHING COMPANY, 65 MADISON ST.

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PRESS OF W P. DUNN & CO

57 WASHINGTON STREET

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## PREFACE.

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**THE INTER OCEAN** ten years ago began the publication in book form of **OUR CURIOSITY SHOP**. So favorably was it received by our regular readers, and by the public generally, that its continuance annually, which was at first requested, came to be demanded by our patrons. This number, the ninth of the whole series, is issued in response to the constant call for the best material in **OUR CURIOSITY SHOP** department in **THE WEEKLY INTER OCEAN** and in **THE INTER OCEAN** of every Saturday.

The volume for 1886 contains several features which are worthy of special mention. To veterans of the War for the Union this number is of unusual value and interest. The utmost care and attention have been exercised to make the regimental histories, descriptions of battles, movements of armies, and sketches of leaders of the war thoroughly entertaining and exact, and in every sense helpful to the boys in blue who have made the inquiries and to their comrades scattered since the famous interview at Appomattox from ocean to ocean. The history of the Grand Army of the Republic, the list of its eminent commanders, with the dates and places of meeting since the founding of this patriotic order; the article upon the Woman's Relief Corps; together with the valuable materials regarding the Revolutionary and other wars of this country; all make this volume of unusual value and interest to ex-soldiers and their friends.

**OUR CURIOSITY SHOP** has endeavored to observe the rule it laid down long since, namely, to make it, as far as possible, a cyclopedia of the day. It is comparatively easy to trace out a fact or line of facts which relate to ten, twenty, or even fifty years ago, but it frequently happens that current events are very difficult of comprehension and correlation. Such a case may be noticed in the present-day history of Poland and Bulgaria and Ireland; of the Egyptian, Soudanese, and Canadian rebellions. Special attention is directed to these articles, as they will be found to contain the history of the countries mentioned during most momentous periods. Another feature of this book is comprised in the tables of the rulers and dynasties of Germany and Sweden, and in the list of the Popes. The wealth, debt, and taxation of States and countries; histories of political parties in the United States; the British parties and Parliaments; the development and present status of woman suffrage, illiteracy, origin of phrases, authors of popular songs and works, the valuable and carefully prepared biographical sketches, the numberless scientific, political, social, religious, mechanical, historical, and other facts contained in this ready reference and treasury of information, will commend it to every intelligent reader.

The index has been prepared with the thoroughness and exactness which it has been our constant purpose to bestow upon every answer **OUR CURIOSITY SHOP** contains. The same system adopted in two previous volumes, those of 1884 and 1885, has been continued, of locating in the index the precise column on the page to which the reference directs the inquirer. This has met with hearty approval from our patrons, and is believed to be of great value to every one consulting **OUR CURIOSITY SHOP**.

T. G. M.







## OUR CURIOSITY SHOP.

### ALEXANDER HAMILTON.

DANLEYTOWN, KY.  
Give a brief sketch of Alexander Hamilton.  
GEO. W. CALLAHAN.

*Answer.*—Alexander Hamilton was born Jan. 11, 1757, on the island of Nevis in the West Indies. His father was a Scottish merchant and his mother was the daughter of a French Huguenot. He was sent to New York in 1772 and entered Kings College in 1773. On the outbreak of hostilities between Great Britain and the Colonies he adopted the cause of the latter warmly, and in 1775 wrote a series of articles defending the patriots so ably that it immediately brought him into favorable notice. In March, 1776, he received a commission as captain of artillery; served with distinction at the battles of Long Island, White Plains, Trenton, and Princeton, and was appointed aid-de-camp to General Washington, with the rank of lieutenant colonel, in March, 1777. He was Washington's special friend and adviser all through the war. He took an active part in the battle of Monmouth, and was highly commended for his conduct there. In 1780 he married Eliza, a daughter of General Schuyler, and in 1781, after the battle of Yorktown, he left the army, and, going to New York, began the study of the law. In 1782 he was elected by the State of New York to the Continental Congress; in August, 1783, he resigned his seat, and began the practice of law in New York City, and by his remarkable talents immediately rose to the first rank of the profession. In 1786 he was elected a member of the New York Legislature; in 1787 was one of the delegates to the convention which framed the Federal Constitution. He was a strong supporter of the Federal party. On the establishment of the new government, with Washington as President, Hamilton was made Secretary of the Treasury. To his admirable management of the finances the success of the new administration was largely due. He resigned his office in January, 1795, and returned to the practice of law in New York. When the army was reorganized in 1798 Hamilton was made a Major General at Washington's special

request, and on the death of the latter in 1799 he became Commander-in-chief, but the army was soon after disbanded. In 1804 Hamilton became involved in a political quarrel with Aaron Burr, which unhappily terminated in a duel, wherein the former received a wound of which he died on the following day, July 12, 1804. His death was greatly lamented. Hamilton was unquestionably one of the ablest statesmen that ever lived. Talleyrand, the renowned French diplomat, said: "I consider Napoleon, Fox, and Hamilton the three greatest men of our epoch, and without hesitation I award the first place to Hamilton." Hamilton's widow died in 1854 at the age of 97. His son, John C. Hamilton, wrote his life and compiled his works, and published them in 1851.

### THE CANADIAN REBELLION AND SCOTT'S MURDER.

ROCK FALLS, IOWA.  
In the account of the execution of Riel mention was made of Scott who was shot by order of Riel fifteen years ago. Who was Scott and what were the circumstances attending his death? Give the leading facts concerning the rebellion of 1869.

RICHARD MOORE.

*Answer.*—In 1869 the Hudson's Bay Company, which held in absolute proprietorship the entire Northwest Territory by a charter granted by the British government in 1670, made a formal surrender of this Territory to the crown. The company received in return £300,000 in money—which was paid by Canada, to which the Territory was immediately annexed—and was allowed to retain certain privileges in land and trade. As this change in the ownership of the Territory had been made without consulting the inhabitants of the country, these felt very indignant about it, and when, very soon after the transfer, a surveying party arrived at Fort Garry, with the intention of laying out the surrounding country into townships and lots, the disaffection took the form of open rebellion. There is no doubt that certain persons, anxious to raise themselves into power by this means, played upon the credulity of the ignorant people and filled them with groundless apprehensions. Rumors of all kinds were afloat. It was said that the people would be turned from their homes by

the Canadian government; that their land and houses would be confiscated; that enormous taxes would be levied, and the most absolute tyranny forced upon them. It is not surprising that the revolt spread swiftly to all parts of the Territory, and that every hour there were fresh accessions to the ranks of the insurgents. The population of the Territory was composed largely of French, half-breeds, and Indians. A provisional government was formed, with one John Bruce as President, but the real leaders of the insurgent movement were Louis Riel and Ambrose Lepine. Riel placed himself at the head of the volunteer army that was formed, and before the close of 1869 had under his control a force of 700 men, well equipped with munitions of war. The new Governor of the Territory, the Hon. William McDougall, who had been sent to take possession of authority, was met at the border by Riel and his soldiers and ordered back. He was forced to retreat into the United States for safety. In November the insurgents occupied Fort Garry, and a national committee of twenty-four deputies was appointed to act under Riel's directions. Every one who refused to recognize or obey the committee was instantly imprisoned. A deputation from the Canadian government bearing papers offering to the people full immunity from punishment for rebellious acts, on condition of the prompt dispersion of the army, was seized by Riel and its members imprisoned. Feb. 10, 1870, Riel was made President of the new Territory. Feb. 15, there was a rising on the part of the English half-breeds and Englishmen against Riel. This party was unorganized and without equipments, and its forces were scattered by the French army without striking a blow. This circumstance greatly fortified the position of Riel, and increased his already great influence with the people. Thus far in the rebellion no lives had been taken. The leader of the Portage outbreak, Major Boulton, had been captured, tried by court-martial, and condemned to be executed. He was pardoned, however, through the earnest interposition of the Catholic clergy of Fort Garry in his favor. But there was another man among the captives, Thomas Scott, who was especially obnoxious to Riel because of the active part he had taken against him. March 4 it was reported that Scott had insulted his guards. Without allowing him even the pretence of a trial Riel ordered the man to be shot. Less than an hour was allowed him to prepare for death. As the news of the impending execution spread through the town, scores of citizens, with all the clergy—Catholic and Protestant alike—hastened to Riel to beg him to revoke the sentence. To every argument and plea that were brought forward, however, only a stern refusal was vouchsafed. The hour of noon arrived, and Scott, who could scarcely even then realize that his last hour had come, was blindfolded and taken outside of the walls of the fort. He knelt on the snow beside his open coffin, said farewell, and immediately fell back pierced by three bullets. Six men had been detailed to do the shooting, but all were partially intoxicated, so that their aim had not been accurate, and the poor victim

still lived, making it necessary for the guards to put an end to his miseries with a revolver. To requests that the body might be given up for interment in one of the cemeteries, Riel returned a positive refusal, and the first victim of the Northwest rebellion was buried inside the walls of the fort. Riel escaped all punishment for this act; but his assistant, Lepine, was tried for it by the Canadian government, and condemned to death. His sentence was commuted by the Governor General, however, to two years' imprisonment, and a permanent forfeiture of his political rights.

#### THE GYPSIES.

Give some account of the gypsies—what language do they speak, and what country did they originally come from?

WAYNE, Mich.

M. A. FORTY.

*Answer.*—The gypsies are a vagabond people found in nearly all parts of the world. They are themselves ignorant of their origin, and no historical record exists of their earlier migrations. So there are different theories about them among writers. Some consider that they came originally from Egypt—the name gypsy is simply a corruption of Egyptian—others that they came from Persia, Arabia, or India. The weight of evidence in the language, physiognomy, and habits of this vagrant people is in favor of their Indian origin. There is to-day a wandering tribe in Upper India known as the Zingaro, and the name of the gypsies in the first European country which they visited was the Zingari. It is impossible that this similarity of names should be a chance coincidence. Further, the first appearance of the gypsies in Europe occurred when the Mongol conqueror, Timour, was laying waste the fruitful countries of Southern Asia, and marking the trail over which his army passed with rivers of human blood. Over 90,000 men, women, and children were slaughtered in the province of Bagdad; 100,000 between the Indus and Delhi. The Zingaro, the tramps of Oriental society, the poorer classes, who had no possessions to excite the cupidity of the invaders, fled in bands to the westward, while the conquering party marched toward the east. The first bands of these people came to Italy in the first decade of the fifteenth century. In 1422 there were about 14,000 of them in that country. They made their first appearance in the provinces of the Danube in 1417. Aug. 17, 1427, a band of them came to Paris. They had caught enough of European speech to make themselves understood, and claimed to be Christians who had been driven from Egypt by the invasion of the Saracens. The Parisians were disposed to receive them hospitably, but as they proved to be great thieves they were soon after expelled from the city. They continued, however, to wander in France, and other bands joined them. They appeared in England about 1506, and in Sweden in 1514. Wherever they went they pretended to the arts of palmistry and fortune-telling to get better opportunities to carry on their thieving practices. Spain banished them in 1492, and a century later renewed the decree strenuously. In England they were exiled by special procla-



mation by Henry VIII. and also by Elizabeth. Italy, Denmark, Sweden, and Holland also took measures against them. In Scotland they were treated kindly, and efforts were made to civilize them, though without much success. Germany also made like efforts, and so did Austria, but these have only proved successful since Joseph II. of the latter country, in 1782, made and enforced severe laws against vagrants. There are about 700,000 gypsies in Europe, the most of them being in Southern Russia, the Danubian provinces, Austro-Hungary, and Spain. The severe laws against them have generally been repealed. The gypsies have intermarried but little with other races, and the proximity of civilized races for four centuries and more has made but little impression on their original barbarity. The language of the gypsies, though everywhere preserving forms of an unmistakably Indian origin, differs greatly in different countries, as these people are very much inclined to incorporate words of other tongues with their own.

#### MARBLEHEAD.

HOMEWOOD, Kan.

I have seen the town of Marblehead, Mass., spoken of as "a town that has no boys." What does this mean?

ELMER DEAN.

*Answer.*—Marblehead is a port on the shores of Massachusetts Bay, about twelve miles northeast of Boston. The town was incorporated in 1649, and for nearly 200 years was noted for its important fishery trade. Within the past half-century it has been transformed into a great center for the manufacture of boots and shoes. It is said, though we can not vouch for the truth of the statement, that the boys of Marblehead all run away to sea to escape the necessity of being set to work in the factories. This explains the reference to it as "a town with no boys," which is only true, of course, in a comparative sense. That the men and boys of the town are imbued with an exceptionally adventurous spirit, is shown by the part they have taken in the wars of the country. Marblehead, with a population of less than 5,000, sent over 1,000 men to the field during the Revolutionary war, and when the war was over there were 600 widows and 1,000 fatherless children in the town. During the war of 1812 the frigate Constitution was chiefly manned by men from Marblehead, and the town also sent out a number of privateers, and at the time peace was declared over 500 Marblehead citizens were held in England as prisoners of war. In the civil war it was the first town to send troops to Boston—April 16, 1861,—and during the conflict it furnished 1,440 men to the army, which was over one-seventh of its entire population. The town has now about 7,400 inhabitants.

#### THE CONDENSER IN MARINE ENGINES.

TAMA CITY, Iowa.

Do ocean steamers use sea water in their boilers? How is the deposit of salt in them prevented?

JOHN RAMSDELL.

*Answer.*—As it would be altogether impracticable for a steam vessel to carry a supply of fresh water for the use of its boilers, ocean steamers must make use of sea water. As this water can not be used without causing a saline deposit in

the boiler, the work of removing this incrustation at intervals was formerly one of the most difficult incidents of ocean steam navigation. This difficulty has been quite obviated, however, by one of the most important improvements in the modern steam-engine—the surface condenser. In this instrument the steam is condensed by contact with the surface of a great number of small tubes, through which a current of sea water is kept constantly flowing. The condensing and the condensed water are kept quite separate, the former being returned to the sea and only the latter sent into the hot well. The boiler, therefore, is continually fed with distilled water, and several important advantages are gained. First, the loss of fuel consumed in "blowing off" the water, to keep the concentration at a desired point, is prevented, and also the loss due to the slight conducting power of the envelope of scale which attaches to all heating surfaces of boilers using sea water. The labor of scaling and cleaning the salt deposit from the boilers is also saved, their durability is increased, and the expense of their repairs greatly reduced. Further, by the use of the condenser, a much greater pressure of steam is rendered safe, and a far greater expansion of the steam made possible.

#### ORIGIN OF THE NAME YANKEE.

BERLIN, Wis.

How did the word Yankee as applied to New Englanders originate?

R. N. S.

*Answer.*—There have been several theories advanced as to the origin of this word. According to Thierry, it was a corruption of Jankin, a diminutive of John, which was a nickname given by the Dutch colonists of New York to their neighbors in the Connecticut settlements. Dr. William Gordon, who wrote a history of the American war, first published in 1789, had another theory. He said that it was a cant word in Cambridge, Mass., as early as 1713, used to denote especial excellence, as a yankee good horse, yankee good cider, etc. He supposed that it was originally a by-word in the college, and being taken by the students into other parts of the country, gradually obtained general currency in New England, and at length came to be taken up in other parts of the country, and applied to New Englanders as a term of slight reproach. Still another origin is given by Aubury, an English writer, who says: "It is derived from a Cherokee word—cankke—which signifies coward and slave. This epithet was bestowed on the inhabitants of New England by the Virginians for not assisting them in a war with the Cherokees, and they have always been held in derision by it." But the most probable theory is that advanced by Mr. Heckewelder, that the Indians, in endeavoring to pronounce the word English, or Anglais, made it Yengees, or Yangees, and this originated the term. There is no doubt that the name was given by the Indians to the English colonists; from them it was adopted by the British, who applied it generally to New Englanders only. Europeans subsequently applied it to all natives of the United States, and during the war the Southerners dubbed all inhabitants of the Northern

States by the epithet, but it should properly be confined solely to native New Englanders.

MARY ANDERSON.

Give a sketch of Mary Anderson, the American actress. BLUNT, D. T.  
READER.

*Answer.*—Mary Anderson was born at Sacramento, Cal., July 28, 1859. When she was about 3 years old her father was killed in battle. Her mother subsequently married Dr. Hamilton Griffin, a surgeon in the Confederate army; and a resident of Louisville, Ky. At the age of 13 Miss Anderson began to prepare herself for the stage, under the tuition of Charlotte Cushman, and Nov. 27, 1875, she made her first appearance at Macauley's Theatre, Louisville, in the character of Juliet. Her success was so marked that in the following February she was engaged to play a week at the same theater, appearing as Juliet, Bianca in "Fazio," and Julia in the "Hunchback." In March she played Pauline at St. Louis, and Meg Merrilies at New Orleans. She made her first appearance on the stage in San Francisco in September, 1876, and at Washington, D. C., at the National Theater, Jan. 5, 1877. In the season of 1877-78 she made her debut in Philadelphia, Boston, and New York, and Sept. 1, 1883, at the Lyceum Theater, London.

WEDDING ANNIVERSARIES.

LENEX, IOWA.  
What is the origin of tin, china, silver, etc., weddings? W. F. WRIGHT.

*Answer.*—Among medieval Germans, if a married couple lived to celebrate the twenty-fifth anniversary of their wedding, the wife was presented by her friends and neighbors with a silver wreath. This was partly in congratulation of the good fortune that had prolonged the lives of the couple so many years, and partly in recognition of the fact that the pair must have known a fairly harmonious existence, or one or the other would have been long before worried into the grave. In agreement with the old idea that the harmony of the household depended mainly upon the wife she received the reward. On the celebration of the fiftieth anniversary the good wife received a wreath of gold. Thus these anniversaries came to be known as the silver wedding-day and the golden wedding-day. The tin, china, and other anniversaries are a later innovation, adopted, apparently, in imitation of the others, but with purely arbitrary signification.

ELIZABETH AKERS ALLEN.

RED WING, Minn.  
Give a short sketch of the life of Mrs. Elizabeth Akers Allen. Is she still writing? When did she write the poem, "Rock Me to Sleep, Mother?" C.

*Answer.*—Mrs. Allen, whose maiden name was Elizabeth Ann Chase, was born at Strong, Me., Oct. 9, 1832. She showed much talent even while a girl, and was much admired for her brilliant conversational powers and her beauty. At the age of 18 she was married to Paul Akers, the noted sculptor, and went to live at Philadelphia. In that city Mr. Akers died in May, 1861, less than a year after their marriage. It was within two or three years after this that his widow wrote the poem "Rock Me to Sleep, Mother," which was the first of her writings to bring her into general notice, though she had con-

tributed not a little to magazine literature previously under the nom de plume of Florence Percy. In 1866 a volume of her poems was issued by a Boston publishing house. About this time, or shortly after, Mrs. Akers was again married to Mr. E. M. Allen, of New York. She still contributes occasionally to periodical literature.

THE CANADIAN FISHERY AWARD.

TISKILWA, Ill.  
Give a history of the Canadian fishery award, the amount of the award, etc. J. R. M.

*Answer.*—This award was made in December, 1877, by a commission appointed to determine the money value of the rights enjoyed by the Canadian and United States fishermen, under the treaty of Washington, over and above the rights previously allowed them. The rights given by this treaty to the Americans were permission for a term of two years to fish inside of a line three miles from the shore on the Canada coast; and to the Canadians, permission to ship fish, fish-oil, etc., into the United States free of duty for the same length of time. The commission was to set values upon these respective privileges and then to subtract the one from the other, and award the balance to the country giving the most and receiving the least in return. This commission awarded Great Britain \$5,500,000, on the ground that the privileges given to the Americans were worth so much more than those granted to the Canadians. This sum the United States paid, but under protest, as it was regarded as an exorbitant price. In 1880 Professor Henry Youle Hind, who had been appointed to analyze the statistics of the Canadian fish trade with the United States, reported that those statistics on which the award of 1877 had been based had been deliberately falsified in the interest of the Canadian government. Professor Hind reported the discrepancies which he had discovered to the Canadian government, but received no satisfaction. He then gave the whole matter to the press, and sent a report of the matter to the British and also to the United States Government. Great Britain refused to look into the matter, the Canadian authorities deliberately ignored it, and when the affair was brought before Congress in a resolution it was promptly tabled. No attention has been given to it since, but the ten years covered by the treaty of Washington expired July, 1885.

THE POPES OF ROME.

HENRY, D. T.  
Will Our Curiosity Shop give a complete list of the Roman Catholic Pontiffs, from the origin of that church down to the present time, together with the dates of their succession and death? G. H. VANCE.

*Answer.*—The list appended gives the succession of the pontiffs as accepted by the Roman Church and recorded in its registers. The popes were at first, it must be remembered, the bishops of Rome simply, seeking for, or claiming, no authority outside of their own diocese. The wealth and political influence of the Church at Rome naturally gave to the bishop of that city a special prominence in the councils of the early church, and also made the office one much sought after. But not until the third century do we find



the incumbent of this office claiming authority over his brother bishops, or assuming the title of Pope, or father. The office of pontiff has been filled from the earliest times by election, till the tenth century by the clergy and people of Rome, and since that time by the College of Cardinals. It has, therefore, been held by persons of widely different nativity and antecedents.

Name of Pope.	Term of Pontificate	Name of Pope.	Term of Pontificate
St. Peter.....	41-67	Stephen III.....	752-757
Linus.....	67-79	Paul I.....	757-767
Cletus.....	79-91	Constantine II.....	767-768
Clement I.....	91-100	Stephen IV.....	768-772
Evaristus.....	100-109	Adrian I.....	772-796
Alexander.....	109-119	Leo III.....	795-816
Sixtus I.....	119-126	Stephen V.....	816-817
Telesphorus.....	126-137	Pascal I.....	817-824
Euginius.....	138-142	Eugenius II.....	824-827
Pius I.....	142-156	Valentinus.....	827-844
Anicetus.....	157-167	Gregory IV.....	827-844
Soter.....	168-176	Sergius II.....	844-847
Euthenius.....	177-189	Leo IV.....	847-855
Victor I.....	190-202	Stephen VI.....	855-858
Zephyrinus.....	202-217	Nicholas I.....	858-867
Callixtus I.....	218-222	Adrian II.....	867-872
Urbanus I.....	222-230	John VIII.....	872-882
Pontianus.....	230-233	Martinus I.....	882-884
Anterus.....	233-236	Adrian III.....	884-885
Fabianus.....	236-250	Stephen VI.....	885-891
Cornelius.....	251-252	Formosus.....	891-896
Lucius.....	252-253	Boniface VI.....	896-898
Stephen.....	253-257	Stephen VII.....	898-899
Sixtus II.....	257-258	Romanus.....	897-898
Dionysius.....	259-268	Theodorus II.....	897-898
Felix I.....	269-274	John IX.....	898-900
Eutychianus.....	275-283	Benedict IV.....	900-903
Caius.....	283-296	Leo V.....	903-904
Marcellinus.....	296-304	Christopher.....	903-904
Marcellus.....	307-309	Sergius III.....	904-911
Eusebius.....	309-310	Anastasius III.....	911-913
Melchior.....	310-314	Leo.....	913-914
Sylvester.....	314-333	John X.....	914-928
Marcus.....	336-337	Leo VI.....	928-929
Julius.....	337-352	Stephen VIII.....	929-931
Liberius.....	352-356	John XI.....	931-936
Damasus.....	356-384	Leo VII.....	936-939
Niricus.....	384-398	Stephen IX.....	939-942
Anastasius.....	398-402	Martinus II.....	942-948
Innocent I.....	402-417	Azapetus.....	948-955
Zosimus.....	417-418	John XII.....	955-963
Boniface I.....	418-422	Leo VIII.....	963-964
Celestine I.....	422-423	Benedict V.....	964-965
Sixtus III.....	423-440	John XIII.....	965-972
Leo I.....	440-461	Benedict VI.....	972-974
Hilary.....	461-468	Domnus II.....	974-974
Simplicius.....	468-483	Benedict VII.....	974-983
Felix III.....	483-492	John XIV.....	983-984
Gelasius.....	492-498	John XV.....	984-985
Anastasius II.....	496-498	John XVI.....	985-996
Symmachus.....	498-514	Gregory V.....	996-999
Hormisdas.....	514-523	Sylvester II.....	999-1003
John I.....	523-526	John XVII.....	1003-1003
Felix IV.....	526-530	John XVIII.....	1003-1009
Boniface II.....	530-533	Sergius IV.....	1009-1012
John II.....	533-535	Benedict VIII.....	1012-1024
Azapetus I.....	535-538	John XIX.....	1024-1033
Silverius.....	538-538	Benedict IX.....	1033-1045
Vigilius.....	538-553	Gregory VI.....	1045-1045
Pelagius I.....	553-560	Clement II.....	1046-1047
John III.....	560-573	Damasus II.....	1048-1048
Benedict I.....	574-578	Leo IX.....	1048-1054
Pelagius II.....	578-590	Victor II.....	1055-1057
Gregory I.....	590-604	Stephen X.....	1057-1058
Sabine.....	604-606	Benedict X.....	1058-1059
Boniface III.....	606-608	Nicholas II.....	1059-1061
Boniface IV.....	608-615	Alexander II.....	1061-1073
Deusdedit.....	615-618	Gregory VII.....	1073-1085
Boniface V.....	618-625	Victor III.....	1086-1087
Honorius.....	625-634	Urban II.....	1088-1099
Severinus.....	640-640	Pascal II.....	1099-1118
John IV.....	640-642	Gelasius II.....	1118-1119
Theodore I.....	642-643	Alexis II.....	1119-1124
Martin.....	643-648	John XX.....	1124-1130
Eugenius.....	648-654	Innocent II.....	1130-1138
Vitalianus.....	657-672	Celestine II.....	1143-1144
Adeodatus.....	672-676	Lucius II.....	1144-1145
Domnus.....	676-678	Eugenius III.....	1145-1153
Agatho.....	678-681	Anastasius IV.....	1153-1154
Leo II.....	682-683	Adrian IV.....	1154-1159
Benedict II.....	684-685	Alexander III.....	1159-1181
John V.....	685-686	Honorius III.....	1181-1185
Conon.....	686-687	Urban III.....	1185-1187
Sergius I.....	687-701	Gregory VIII.....	1187-1187
John VI.....	701-705	Clement III.....	1187-1191
John VII.....	705-707	Celestine III.....	1191-1198
Sisinnius.....	708-708	Innocent III.....	1198-1216
Constantine I.....	708-715	Honorius III.....	1216-1221
Gregory II.....	715-731	Gregory IX.....	1227-1241
Gregory III.....	731-741	Celestine IV.....	1241-1241
Zacharias.....	741-752	Innocent IV.....	1243-1254
Stephen II.....	752-752	Alexander IV.....	1254-1261

Name of Pope.	Term of Pontificate	Name of Pope	Term of Pontificate
Urban IV.....	1261-1264	Adrian VI.....	1522-1523
Clement IV.....	1264-1268	Clement V.....	1523-1534
Gregory X.....	1271-1276	Paul III.....	1534-1549
Innocent V.....	1276-1276	Julius III.....	1550-1555
Adrian V.....	1276-1276	Marcellus II.....	1555-1555
Vicedominus.....	1276-1276	Paul IV.....	1555-1559
John XXI.....	1276-1277	Pius IV.....	1559-1565
Nicholas III.....	1277-1280	Pius V.....	1565-1572
Martin IV.....	1281-1285	Gregory XIII.....	1572-1585
Honorius IV.....	1285-1287	Sixtus V.....	1585-1589
Nicholas IV.....	1287-1292	Urban VII.....	1590-1590
Celestine V.....	1294-1294	Gregory XIV.....	1590-1591
Boniface VIII.....	1294-1303	Innocent IX.....	1591-1591
Benedict XI.....	1303-1314	Clement VIII.....	1592-1605
Clement V.....	1305-1314	Leo XI.....	1605-1605
John XXII.....	1316-1334	Paul V.....	1605-1621
Benedict XII.....	1334-1342	Gregory XV.....	1621-1623
Bement VI.....	1342-1352	Urban VIII.....	1623-1644
Innocent VI.....	1352-1362	Innocent X.....	1644-1655
Urban V.....	1362-1370	Alexander VII.....	1655-1667
Gregory XI.....	1370-1378	Clement IX.....	1667-1669
Urban VI.....	1378-1387	Clement X.....	1670-1678
Boniface IX.....	1389-1404	Innocent XI.....	1678-1689
Innocent VII.....	1404-1406	Alexander VIII.....	1689-1691
Gregory XII.....	1406-1409	Innocent XII.....	1691-1701
Alexander V.....	1409-1410	Clement XI.....	1700-1721
John XXIII.....	1410-1415	Innocent XIII.....	1721-1724
Martin VI.....	1417-1431	Benedict XIII.....	1724-1730
Eugene IV.....	1431-1447	Clement XII.....	1730-1740
Nicholas V.....	1447-1455	Benedict XIV.....	1740-1758
Callixtus III.....	1455-1458	Clement XIII.....	1758-1769
Pius II.....	1458-1464	Clement XIV.....	1769-1774
Paul III.....	1464-1471	Pius VI.....	1775-1799
Sixtus IV.....	1471-1484	Pius VII.....	1800-1823
Innocent VIII.....	1484-1493	Leo XII.....	1823-1828
Alexander VI.....	1493-1503	Pius VIII.....	1829-1830
Pius III.....	1503-1503	Gregory XVI.....	1831-1846
Julius II.....	1503-1513	Pius IX.....	1846-1877
Leo X.....	1513-1521	Leo XIII.....	1877-1877

The longest pontificate in the list is that of Pius IX, thirty-one years; the shortest that of Vicedominus, who died the next day after his consecration. The average term for the entire list is a little more than seven years. It will be noted that there have been several intervals when the See was vacant for a time, also that the numbers of the pontiffs are not always consecutive. The importance of the office, especially during the middle ages, rendered it much sought for, and the fierce struggles of its aspirants led to frequent instances of disputed elections, with the result either of no Pope at all for a time, or of rival Popes, each claiming the power and dignity of the See. Those not regularly elected were known as antipopes, but it sometimes happened that an antipope succeeded in holding the papal chair for a time, and his name was therefore duly inscribed upon the pontifical register of the church. Others, merely heading a turbulent faction, obtained no such recognition, and if these pretenders assumed a papal title, as Felix II, such title was dropped from the sacred register, and the next of the name was known as Felix III.

## LIBATIONS.

CHICAGO.

From what did the practice of spilling the first few drops of wine from a bottle on the floor "for the fairies" originate? A LOVER OF FOLKLORE.

Answer.—This is a survival of the very ancient custom of pouring out wine before the gods as an act of homage or worship, a custom nearly identical with the drink-offering of the ancient Hebrews. Nearly all sacrifices to the gods among the Greeks and Romans were accompanied with libations, wine being poured over them. Libations always accompanied a sacrifice which was offered to seal a treaty with another nation, and were evidently an essential part of the solemnity, as the Greek word for libation (spondal) and that for a treaty



(spondee) have obviously an identical origin. But libations were also made independent of sacrifices, as before solemn prayers, and on many occasions of public and private life, as before drinking at meals and the like. With the Romans the libation was a sort of "grace before meat," as before each meal they made an offering of this kind to the lares, or household gods. Libations usually consisted of unmixed wine, but milk or honey diluted with water was also used for the purpose. The household libation is distinctly heathen in its origin, as the Hebrews never offered the drink-offering separate from the sacrifice.

#### GOVERNMENT OF INDIAN TERRITORY.

LOGAN, Kan.  
Tell us about the management and government of Indian Territory. What difference exists between it and the other Territories?  
TOURIST.

*Answer.*—The Indian Territory has no territorial government. The various Indian tribes in the Territory have been settled on separate reservations, and each tribe has its own internal government. There are eleven Indian agencies in the Territory, where all affairs concerning the United States and the Indians are settled by officials appointed by the President, with the consent of the Senate. There is also a Superintendent of Indian Affairs appointed, to supervise the agents. The question of a central government for this Territory has been much discussed, both in Congress and among the Indians themselves. In 1870 there was a general council among the Indians held at Ocmulgee, and a State constitution was formed on the model of other State governments, but there was much objection to it on the part of some of the tribes and it was given up. The jurisdiction of the United States Courts for the West District of Arkansas extends over the Territory in civil actions where a white man is a party, in case of crimes committed by or upon a white man, and in proceedings for violation of the laws regulating trade or intercourse with the Indians.

#### THE TROJAN WAR.

NORMAL, Ill.  
Give a short history of the Trojan War.  
G. N. SNAPP.

*Answer.*—The legend of the Trojan war places its date at about 1194–1184 B. C. Ilios, or Troy, was the capital of a strong empire, Grecian in race and language, which had grown up in Asia Minor along the shores of the Hellespont. According to the traditions, Paris, one of the sons of Priam, King of Troy, visited the Spartan King Menelaus, and shamefully requited his hospitality by enticing away his wife, Helen, famous for her rare beauty. At the call of Menelaus, all the heroes of Greece flew to arms to avenge this wrong. A host of 100,000 warriors was soon gathered, among whom were Achilles, Ulysses, Ajax, and Diomed, the bravest heroes in Hellas, and Agamemnon, the "King of Men," who, as brother of Menelaus, was chosen to lead the expedition. Twelve hundred galleys bore the gathered clans from Greece across the Ægean Sea to the Trojan shores. For ten years the Grecians besieged the city of Priam. On the plains outside its walls the warriors of the two

armies fought in general battle, or in single combat. Homer has immortalized these encounters in the most thrilling battle epic ever written—the *Iliad*. At last the city is taken by means of a device of the "crafty Ulysses." Upon the plain in sight of the city the Greeks build the statue of an immense wooden horse, within whose hollow body they conceal several of their warriors. Then the whole Grecian army retire to the ships, as though giving up the siege in despair. The Trojans come out on the plain and gaze at the wooden image in wonder. They believe that it has been made by the Greeks as a propitiatory offering to the gods, and therefore they bear it within the walls of Troy. At night the concealed Greeks issue from the horse, open the gates of the city to the waiting army without, and Troy is sacked and burned to the ground. The old King, Priam, and all his sons, are killed. The only ones who escape the general slaughter are Æneas, his old father Anchises, and a few devoted followers. These, after long wanderings by land and sea, settle on the shores of Etruria in Italy. This great Grecian legend has undoubtedly an historical kernel in the fact of the destruction of Troy by a Grecian military expedition. The interesting discoveries of Dr. Schliemann on the site of ancient Troy show that the story of the siege, as told by the poets, is probably far more correct in many particulars than was once believed. But much of it is mere poetical embellishment. Yet to separate the fact wholly from the fiction is a task for which no historical critic has now sufficient knowledge.

#### THE GREAT DICTIONARY.

BUSHNELL, Ill.  
I think it was about five years ago that I saw mention of a new dictionary of the English language, to be published under the direction of the London Philological Society. Tell us something about this, if it has yet been published, etc.  
AN INQUIRER.

*Answer.*—The first suggestion of this great dictionary originated with a paper read before the London Philological Society, in 1857, by Dean Trench, entitled "Some Deficiencies in Our English Dictionaries." The society immediately took the matter under consideration, and in January, 1859, published a prospectus of the proposed work. Their plan was to make a lexicon which should contain every word ever used in English literature, and they called upon students of the language in England and America to help them in collecting material for the work. The general editorship of the work was given to Mr. Herbert Coleridge, but his death a few years later was a great drawback to the undertaking. Another editor was appointed, but little was done save to amass material until 1876, when Dr. Murray, an English philologist of high repute, was chosen to supervise the work. He entered upon it with much enthusiasm, and immediately sent out an appeal to teachers in all English and American colleges for co-operation in the work. His request was that persons interested would read one or more books of some author, and make notes of all unusual words, or any word employed in a somewhat unusual sense, these to be written on slips with exemplifying quotations

and sent to him. Dr. Murray now had an iron building erected in his garden, fitted up with shelves, and over 1,000 pigeon-holes. Here, with four assistants, he began the work of sorting the immense amount of material sent to him. The enthusiasm of those outside persons who had undertaken to read for him was so great that in a number of instances a single individual has sent in 12,000 or 15,000 slips. He has derived, he says, very great assistance in this line from American teachers and students. The contract for the printing of the work was made with the Clarendon Press, at Oxford, in 1879, and in 1881 type-setting on the work was begun. In 1883, the first part of the book was sent from the press; in 1885, the second part. These contain about 250 pp. each, and together bring the lexicon up to the word Battering. It is thought that the work will contain about twenty-four such parts. Their price is 14 shillings (\$3.50) each. For every word a complete history is given, its earliest forms, all its derivations, its derived meanings, with quotations and examples to illustrate, with all possible combinations. It is a work for scholars only, being far too bulky and costly for general readers. It is thought that the entire work will be completed about 1892, and that it will cover more than 8,000 quarto pages. This will be over four times as large as Webster's Unabridged Dictionary, and twice as large as Littré's great French Dictionary, hitherto the largest lexicon in existence.

#### SNAP DRAGON.

A correspondent of Our Curiosity Shop inquired some time since concerning the game of snap dragon. This old sport is still a familiar one at the Christmas holidays in England, but is scarcely known in this country. A quantity of raisins are deposited in a large dish (the broader and shallower this is the better) and brandy or some other spirit is poured over the fruit and set on fire. The bystanders now endeavor, by turns, to seize a raisin by thrusting their hands through the flames; and as this is a rather difficult feat, requiring both fearlessness and quickness in movement, the game is quite an exciting one, and much laughter is occasioned by the many unsuccessful efforts of the participants. While the game is going on it is usual to extinguish all the lights in the room, so that the lurid glare from the flaming spirits may give a weird-like effect to the scene. Some antiquarians think that this game is a survival of the "ordeal by fire" of the middle ages, while others find in it a trace of the still older customs of fire-worship among the Druids.

#### THE TERM "CHESTNUT."

What is the origin of the term "chestnut"? CHICAGO. INQUIRER.

**Answer.**—The term "chestnut" in its latest use applies to stale jokes, twice-told tales, and, generally, to whatever is especially trite. It originated in Philadelphia, and was used, previously, in connection with the Chestnut Street Theater of that city. If the remark, witticism, or

story was musty with age it was said to be old enough to be got off at that theater. The distinguishing characteristic of the Chestnut Street Theater entertainments was so well known in Philadelphia that the word "chestnut" very readily came to have its present slang meaning in that city, and from there it worked itself out until it has come to be National.

#### ILLITERACY IN THE UNITED STATES.

What percentage of the voters in the United States, under 21 years of age, is illiterate? MT. AUBURN, Neb. WALTER CROW.

**Answer.**—In the subjoined table there appears, according to the census and Presidential vote of 1880, the names of the several States, the number of white and colored male persons unable to write in the States, with the vote in those States for President and Vice President the same year:

STATE.	MALE PERSONS 21 YEARS AND OVER UNABLE TO WRITE.				TOTAL VOTE IN 1880.			Total male Population.
	White.	Per cent.	Colored.	Per cent.	Rep.	Dem.	Greenbk.	
Ala.....	24,450	17.3	96,408	81.4	56,178	90,687	4,642	1,262,505
Ark.....	21,349	15.7	94,800	73.2	41,661	60,489	4,079	892,525
Cal.....	12,615	4.5	18,857	25.2	80,348	80,426	33,892	864,694
Col.....	8,627	3.9	289,19	127.40	24,647	1,483		194,327
Conn.....	9,501	5.5	696	19.7	67,450	64,417	8,868	622,700
Del.....	2,955	9.3	3,787	50.2	14,150	15,183		146,608
Fla.....	4,706	13.8	19,110	69.5	28,654	27,964		269,493
Ga.....	28,571	16.1	116,518	81.2	52,648	102,522	481	1,542,180
Ill.....	44,536	5.7	5,271	38.5	813,037	277,331	26,538	5,077,871
Ind.....	33,757	6.9	4,845	40.5	228,164	225,528	12,986	1,978,301
Iowa.....	16,202	3.9	1,069	33.4	183,944	105,845	32,827	1,824,615
Kan.....	7,993	3.1	5,623	52.2	121,520	59,789	19,710	996,006
Ky.....	54,956	17.3	43,777	73.6	104,550	147,999	11,499	1,648,690
La.....	16,377	15.1	86,555	80.2	37,994	65,810	489	939,946
Maine.....	8,420	4.5	144	21.7	74,089	65,171	4,408	648,936
MD.....	15,132	8.3	30,873	63.5	78,515	98,706	819	984,948
Mass.....	30,951	6.2	141	15.8	165,208	111,960	4,548	1,783,085
Mich.....	26,336	5.7	1,852	30.2	185,190	151,300	54,739	1,636,987
Minn.....	12,872	5.3	364	33.5	93,903	53,315	3,467	730,738
Miss.....	2,473	11.5	99,068	84.3	84,354	75,750	797	1,181,597
Mo.....	40,655	8	19,028	57.1	153,567	208,609	55,045	2,168,330
Neb.....	8,886	3	256	30.8	54,797	28,323	3,858	452,402
Nev.....	1,178	4.6	1,194	21.2	8,732	9,611		62,206
N. H.....	5,264	5	42	17.7	44,332	40,794	528	346,994
N. J.....	15,902	5.8	8,560	38.4	120,555	122,565	2,617	1,181,116
N. Y.....	76,745	5.9	4,321	22.5	555,544	584,511	12,573	5,082,871
N. C.....	44,420	23.4	80,282	76.4	115,578	124,304	1,196	1,569,750
Ohio.....	40,373	5	7,041	32.4	375,043	340,321	6,456	3,188,032
Oregon.....	1,669	8.2	2,005	25.1	20,619	19,943	249	174,793
Penn.....	65,985	6.2	6,845	28.6	444,704	407,428	20,668	4,323,891
R. I.....	7,157	9.5	467	24.8	18,195	10,779	236	276,531
S. C.....	13,924	16	93,100	78.2	58,071	112,312	566	965,577
Tenn.....	46,948	18.8	58,601	73	107,877	128,191	5,916	1,542,550
Texas.....	38,088	11	59,669	75.9	157,645	156,228	27,405	1,591,749
Vt.....	6,731	7.1	72	26.1	45,090	13,181	1,212	332,236
Va.....	3,474	15.3	100,210	78.1	84,020	127,976	189	1,512,555
W. Va.....	3,073	5	8,330	69	42,249	57,334	9,074	361,457
Wis.....	21,221	6.3	474	30.6	144,397	114,634	7,980	1,315,497

#### TWENTY-FOURTH MICHIGAN INFANTRY.

Would like a sketch of the Twenty-fourth Michigan Infantry. FORT ATKINSON, Wis. PATRON.

**Answer.**—The Twenty-fourth Michigan Infantry was organized at Detroit in August, 1862, under Colonel H. A. Morrow, and left for Washington Aug. 29 with 1,027 men and officers. It was present at the battle of Fredericksburg Dec. 13-14, where it was in the division of General Franklin on the left of the Union line, and lost 31 men in killed, wounded, and missing. Soon after the battle the regiment went into winter quarters. April 29 this regiment, with the Sixth Wisconsin, crossed the Rappahannock at Fitts-Hugh Crossing, drove the rebels from their rifle pits, and took 103 prisoners, with a loss to the



Twenty-fourth of 25 in killed and wounded. The regiment was in reserve at the battle of Chancellorsville, but at Gettysburg it was at the front, was a part of the first infantry force under fire, and lost during the battle in killed, wounded, and missing 394 officers and men. Going back into Virginia it was employed guarding the Orange and Alexandria Railroad, and was at the battle of Mine Run Nov. 28. Dec. 24 it went into winter quarters at Culpeper, Va. The losses of the regiment for the year 1863 in killed, wounded, and missing, aggregated 415. It was in all the battles of the Army of the Potomac in the following year—the Wilderness, Spottsylvania, Cold Harbor, Petersburg, etc. and its losses in that campaign were 86 killed or died of wounds, 151 wounded, and 73 prisoners. Feb. 11, 1865, it left Petersburg for Springfield, Ill. It was one of the escort regiments at President Lincoln's funeral, and went to Detroit for final discharge April 30, 1865.

#### FORTY-SEVENTH ILLINOIS INFANTRY.

Give a brief history of the Forty-seventh Illinois Infantry.

MR. ATR, Iowa.  
Co. G. AND B.

*Answer.*—The Forty-seventh Illinois Regiment was organized at Peoria, Ill., and was mustered in Aug. 16, 1861, Colonel John Byrnes commanding. It left Peoria for St. Louis Sept. 23, went to Jefferson City Oct. 9, and was engaged at post duties till Feb. 18, 1862, when it joined General Pope's command, taking part in the movement on New Madrid and Island No. 10. April 22, it went to Hamburg Landing, and May 9 was at the battle of Farmington, where its Lieutenant colonel, Miles, was killed. It was at the battle of Iuka Sept. 19, and at the battle of Corinth Oct. 3 and 4. In this latter engagement it lost thirty killed and over 100 wounded. During the following winter the regiment was employed in guarding railroads, and March 12, 1863, it joined the expedition against Vicksburg. May 14 it assisted in the capture of Jackson, Miss., and there Lieutenant Colonel Cromwell was killed. Becoming separated from the regiment he was surrounded by a squad of the enemy, who demanded his surrender. This he refused to do, and made an effort to escape, but was shot in so doing and killed instantly. After the fall of Vicksburg the regiment was employed guarding railroads and scouting during the remainder of the year. March 10, 1864, it joined the Red River expedition under General A. J. Smith; it was at the battle of Pleasant Hill, April 9, and under fire several times during the expedition. It then returned to Memphis, where 107 of the regiment re-enlisted and went home on veteran furlough. The non-veterans were present at the battle of Tupelo; and in August the entire regiment joined the expedition against Oxford, Miss. The non-veterans were discharged Oct. 11, 1864, and the veterans joined General Mower's expedition, going up White River and into Missouri, pursuing Price. The regiment was sent to Chicago the first week in November, as disturbances were apprehended at the time of the Presidential election. It then

went to Springfield, Ill., where its number was filled out with new men, and it was sent on to St. Louis. Jan. 27 it went to Eastport, Miss., and thence to New Orleans, where it joined the expedition against Spanish Fort and Mobile. After the fall of Mobile the regiment went to Montgomery, and was on duty all the year at Selma and other points in the State. It was mustered out and discharged at Springfield, Feb. 5, 1866.

#### ELECTIONS IN GREAT BRITAIN.

1. When do England, Wales, Scotland, and Ireland, respectively, elect their members of Parliament? 2. How many do each of these divisions elect? 3. Does it not require a majority of all the votes cast to elect?

READER.

*Answer.*—1. Immediately upon the dissolution of Parliament by the expiration of its term, or because of a ministerial crisis, writs ordering a new election are issued by the Queen. There is no general election day in the United Kingdom, or in any of its divisions. The law provides simply that within not less than nine nor more than twenty-one days after the issue of the writs of election, all polls shall have been held. This allows a term of nearly two weeks, during which elections can take place in any borough or district in England and Wales, Scotland or Ireland. 2. The number of members of Parliament is not founded upon population, as in this country, but upon a compromise between ancient rights and the modern demand for representation for all classes. According to the redistribution-of-seats bill passed by the last Parliament, boroughs or towns of at least 15,000 inhabitants are entitled to one representative; those having a less population were merged in their surrounding counties. Towns having 50,000 inhabitants are allowed two representatives, and over that one member to each 50,000 of population. The effect of this bill was to take away representation from many small country towns, which had enjoyed the right from time immemorial, and to greatly increase the representation of the large cities. All the members of the House of Commons are chosen at each election. These number, according to the last apportionment, 670 in all, of which Ireland elects 104, Scotland 70, England and Wales 496. 3. A plurality of the votes cast is sufficient to elect a member.

#### THE NEWPORT STONE TOWER.

Give an account of the old stone tower at Newport, R. I. by whom was it built, and when? Is it still standing?

EMERSON, Iowa.

F. S. ASKE.

*Answer.*—The round tower at Newport, still standing though somewhat decayed and overgrown with wild vines, has long been a puzzle to antiquarians. The first reference made to it in history bears date of 1678, when Governor Benedict Arnold refers to it as "my stone-built windmill." There is no direct evidence whatever to show when or by whom it was built, or whether it was originally built for a mill. One of the favorite theories of antiquarians is that it was built by the Northmen. There is good reason to believe that these daring voyagers reached the American coast about the year 1002, under the leadership of one Lelf Erikson, and settled at

Martha's Vineyard, which they called Vinland. This colony was re-enforced several times by other parties of Norsemen from Iceland and Norway, and the settlement was kept up for a number of years; but as the spirit of adventure which drew the restless sea-kings to this unknown land was soon appeased by the monotony of life among savages, they returned to their own country. There is abundant proof in Icelandic documents that the first discovery of America was made by these Viking voyagers, but no convincing evidence that they left any traces of their occupation on the shores of the new world. Professor Rafn, the Secretary of the Royal Society of Antiquarians of Copenhagen, who has given more study to the subject of the early Norse discoveries than any other man who ever lived, has a theory that the Newport tower was built by the Norsemen, and that it was intended for a baptistery, being originally but part of a large sacred edifice. Some years ago Professor Rafn contributed a very interesting article to *Scribner's Monthly* in support of this theory, and showed by drawings that the plan of the tower was almost identical with that of certain baptisteries built in Europe in medieval times, some of which are still standing. On the other hand, Dr. Palfrey discusses the subject from another point of view in his "History of New England," and proves with apparent conclusiveness that the tower in question was not built by the "Vikings old," but by men of peace, and that it was originally built for a mill. He gives a picture of a stone windmill at Chesterton, England, so much like this tower in construction that the latter might very possibly have been modeled from it.

#### THE FUR TRADE AMONG THE PIONEERS.

CHICAGO.  
Give an account of the fur trade as carried on in Michigan and other Western States during the early part of the century. JOHN.

*Answer.*—The fur trade along the great lakes and westward at the opening of this century was practically controlled by the Northwest Fur Company, a British organization, the great rival of the Hudson's Bay Company. This company was organized in 1787. Its headquarters were in Montreal, and it had a place of meeting, or station, at Grand Portage, on Lake Superior. About the beginning of the century a rival company was formed—the Mackinaw Fur Company—composed mainly of French and Americans, with an establishment at Michilimackinac. But the American fur trade proper was created, one might say, by John Jacob Astor. This commercial genius, on his way to America in 1783, with a few hundred dollars' worth of musical instruments to dispose of on commission, was so impressed by what a furrier on board the vessel told him of the profit to be gained in the fur traffic that immediately on landing he exchanged his instruments for furs, and hastened back with them to London, where he disposed of them to great advantage. On his return to New York he opened a small store, where he offered trinkets and goods of various kinds in exchange for furs to the white and Indian trappers who visited the city with peltries for sale. He also made

trips to the scattered settlements of Western New York for the purchase of furs. As his capital and business grew he went to Canada to purchase furs, and did much business with the Northwest Fur Company. All direct trade between Canada and the United States was then forbidden by laws of the British government, and Mr. Astor, to get any of his goods to the New York market, was obliged to take them first to London. In 1794 a treaty removed restrictions on trade with Canada. Soon after this the military posts of the British in the United States were all given up, and as the posts were also stations for trappers, the operations of the Northwest Fur Company on the soil of the United States were seriously interfered with. The Mackinaw Fur Company now tried to secure the protection of the United States Government, but though its plan of operations was approved of it did not obtain the patronage it wanted. Mr. Astor was more successful. In 1809 he got from the New York Legislature a charter for a new organization—the American Fur Company—with a capital of \$1,000,000. It was understood that Mr. Astor was the company, that he furnished the capital for this new undertaking, and all its operations were conducted under his direct orders. He rapidly extended the business of his company through the territory along the lakes, but had still a formidable rival in the Mackinaw Company. In 1811, with certain persons previously connected with the Northwest Fur Company, Mr. Astor bought out the Mackinaw Fur Company and merged it, with the American Fur Company, in another organization, known as the Southwest Fur Company. In 1815 Mr. Astor bought all the shares of the Southwest company, and his new organization under its former name, the American Fur Company, came to the front. By the terms of this last combination over one-half of the Indian establishments formerly owned by the Mackinaw company passed wholly into the hands of Mr. Astor for five years, on condition that the American Fur Company should not trade with the British Dominions. In the session of 1815-16. Congress, through the influence of Mr. Astor, passed a bill excluding all foreigners from taking any part in the fur trade of the United States. Mr. Astor thus secured a virtual monopoly of a very lucrative trade, and it is no wonder that he rapidly accumulated enormous wealth. He had formed a magnificent scheme for organizing the fur trade from the lakes to the Pacific Ocean by establishing numerous trading posts, making a central depot at the mouth of the Columbia River, and then, by obtaining one of the Sandwich Islands as a station, to supply the Chinese and Indian markets with furs sent directly from the Pacific coast. The line of trading-posts was established, and the town of Astoria, in Oregon, was founded to serve as the coast entrepot of the Western fur trade, but Mr. Astor, with all his wealth and influence, was not able to fully perfect his gigantic scheme. The curious reader, anxious to learn all the details of this great undertaking on the part of Mr. Astor, will find them told at length in Washington Irving's "Astoria."



The town of Mackinaw, or Michilimackinac, was the important central station for the operations of the American Fur Company. Posts were established through the territory now including Wisconsin, Michigan, Illinois, Indiana, Ohio, and even extending southward into Kentucky. At Michilimackinac the trading brigades were organized, the company selecting their most capable men to manage these brigades. The posts were established along the rivers, and the goods for trade were sent down, and the furs brought back, on batteaux, or long, light boats. On reaching the part of the country to which it had been allotted the trading brigade landed and located a post, from which the chief of the band sent detachments out through the surrounding territory. The extent of country belonging to each post was clearly defined, and no band was allowed to trench on ground belonging to another. In this way the enormous wilderness then known as the Northwest Territory, and almost uninhabited save by wild animals and wild men, was thoroughly covered by the operations of the enterprising traders.

#### FIFTY-EIGHTH ILLINOIS INFANTRY.

Give a sketch of the Fifty-eighth Illinois Regiment.  
WAUSAU, Wis.  
R. H. JOHNSON.

*Answer.*—The Fifty-eighth Regiment of Illinois Volunteers organized at Camp Douglas, Chicago, mustering in nine companies Dec. 24, 1861, and the tenth company Feb. 7, 1862. It left Chicago for Cairo Feb. 11, 1862, and thence was sent on to take part in the siege and capture of Fort Donelson. On the field of Shiloh most of the regiment was captured. The men were transferred to various rebel prisons. May 29 the privates were released on parole and sent back to the Union lines, but General O. M. Mitchell would not receive them, so they were sent back to prison. Oct. 17 they were sent to Libby Prison, Richmond, where men and officers were paroled, and sent to Annapolis, and thence were returned to Camp Butler, Springfield. The part of the regiment that was not captured at Shiloh was organized with parts of the Eighth, Twelfth, and Forty-fourth Iowa Regiments, and became known as the "Union Brigade." They were at the siege of Corinth, at the battle of Iuka, and the second battle of Corinth. In December, 1862, the regiment was reunited at Camp Butler, and remained there till June 28, 1863, when it was sent on to Cairo. It was engaged chiefly in garrison duty till Jan. 1, 1864, when it re-enlisted, and was then sent on to Vicksburg. It was with General Sherman on his Meridian raid. It joined the Red River expedition under General A. J. Smith, and was the first regiment to plant the Union colors upon Fort de Russey. At the battle of Pleasant Hill, April 9, this regiment made a charge which turned the tide from reverse to victory. Its loss was very heavy in this battle. It was in the engagements of Marksville Prairie, Clouterville, and Yellow Bayou, at the last named battle losing nine color-bearers. May 24, 1864, the regiment reached Vicksburg. From Memphis, June

10, the veterans of the regiment went home on veteran furlough. The non-veterans were at the battles of Tupelo and Mill Springs. Returning to Memphis the veterans rejoined them and all united in the Oxford raid into Mississippi; then were sent into Missouri in pursuit of Price, and reached Jefferson Barracks Sept. 23. In October the regiment was sent to the Kansas border, but immediately returned. Dec. 1 it set out for Nashville, Tenn., and pursued Hood into Mississippi. The non-veterans went home Jan. 31, 1865, and the veterans and new recruits, 390 in number, under command of Major R. W. Healy, joined the march of General Canby against Mobile. At Mobile it was raised by new men to a full regiment. In April the regiment went to Montgomery, Ala., and stayed there until April 1, 1866, when it was mustered out and sent to Springfield for final discharge. This regiment lost by death, during the war, 197 officers and men.

#### HENRY HUDSON.

DEXTER, Ill.  
What was the nationality of Henry Hudson? Give a brief sketch of him.  
G. W. PARKS.

*Answer.*—Henry Hudson was born about the middle of the sixteenth century of English parents. Of the place of his birth, however, and of his early life nothing is known. In 1607 he commanded a vessel sent out by some London merchants in search of the Northeast passage, but after reaching 80 degrees north latitude he was prevented by the ice from making further progress and returned. On his second voyage in 1608 he reached Nova Zembla. In the service of the Dutch East India Company he sailed from Amsterdam for the New World in 1609 and discovered the mouth of the river which now bears his name. He sailed upon his last voyage in April, 1610, with twenty-three sailors and reached Greenland in June. Steering westward he sailed through Hudson's Strait and explored the great bay of the same name. He desired to winter on the shores of this bay in order to be ready to prosecute his discoveries further in the spring. His provisions ran short, however, and he was compelled to make preparations for returning. It is said that he had incautiously declared that he would have to leave some of the crew behind because of the shortness of provisions, and that this led to the plot of the sailors against him. They mutinied, and placing Captain Hudson with his son and seven others who remained faithful to him in an open boat, set them adrift on the waves. His fate was revealed by one of the conspirators on his return to England. An expedition was sent out in search of the navigator but no trace of him or his companions was ever discovered.

#### COULEES.

Haupt, D. T.  
Out here low places are called "coulees." The word is not given in Webster's Unabridged. What is the origin and correct orthography of the word? G. H.

*Answer.*—The name is generally restricted, we are told, to a small ravine, at the bottom of which is the bed of a dry creek. It is evidently taken from the geological term, coulee, from the French verb couler, to flow, and pronounced as though written koo-lay—which means a stream of lava,



either flowing or consolidated. By metonymy, the word is also applied by geologists to a ravine or hollow that has been excavated by a lava stream. The name, probably first given by an exploring or surveying party to a volcanic stream-bed or rocky gulch, came to be applied by settlers to all low places. The correct orthography is as above given, *conlee*.

## ALEXANDER AND CÆSAR.

STILLWATER, Iowa.  
1. Give the circumstances of the death and burial of Alexander the Great. 2. Also, what became of the body of Julius Cæsar. L. B. CASTLE.

*Answer.*—1. Alexander the Great died at Babylon 323 B. C. in the 32d year of his age, after an illness of eleven days. It is generally asserted by historians that this illness was the result of the conqueror's reckless debauchery. His body was carried to Alexandria, and there interred in a golden coffin by Ptolemæus, and over it was raised a splendid mausoleum. The conqueror's ambition for celestial honors was gratified at his death, for in Egypt and elsewhere temples were dedicated to him and divine honors were paid to his memory. 2. It was the universal custom of Rome under the republic to burn the dead. The bodies of illustrious citizens were carried in procession to the Forum, and there placed before the rostra, from which a funeral oration was pronounced in praise of the deceased. The renowned oration there spoken by Marc Antony over Cæsar's body, so inflamed the crowd who heard it that they placed the corpse of the illustrious dead upon the rostra, broke up chairs, tables, and everything else within reach, and heaped about it, piled on rich clothing and ornaments—in accordance with the ancient belief that everything burned with the dead accompanied the ghost, in phantom form, into the land of the shades—and then set fire to the whole. Bearing torches from this pyre numbers of the excited crowd ran through the city, and would have burned the conspirators against Cæsar in their homes had they not been prevented by the influence of Antony and Octavius. The ashes of Cæsar were then interred, according to custom, in a cinerary urn, and placed in the tombs of the illustrious dead in the Campus Martius.

## THE SCANDINAVIAN LANGUAGES.

CHEROKEE, Iowa.  
Are the languages used by the Danes, Swedes, and Norwegians the same, or nearly so? L. F. SMITH.

*Answer.*—The language spoken during the heathen ages in all the Northern or Scandinavian lands is known in history as the Norse tongue, and although different dialects no doubt existed, it is certain that substantially the same language was used by the inhabitants of Norway, Sweden, Denmark, and Iceland until the eleventh century. In Denmark, however, contact with the Latin races largely modified the tongue, and with the introduction of Christianity important changes were incorporated into it. Modern Danish, therefore, though retaining many words from, and important structural resemblances to, the old Norse language, is essentially a different tongue. Modern Swedish has been developed from one or more Norse dialects in the same manner, but the change was so slow that as late

as the fourteenth century the old Norse sagas were still understood at the courts, wherein the popular tongue is the soonest lost. There are now in Sweden some marked dialectic differences between the speech of the southern and the northern districts of the country. In the north there is still a noticeable approximation to the original Norse tongue, while in the south the resemblances to the Danish are so great as to render the two languages nearly the same. In Norway the Danish language was made, in 1397, by the terms of the union between the two countries, the official language. It is still the language used throughout the country in all schools and colleges, and in business and social life; everywhere, indeed, except in the rural districts, where dialects bearing strong resemblance to the speech of the old Norsemen are still in use.

## TAXATION OF CHURCH PROPERTY—CHAPLAINS.

BENTON HARBOR, Mich.  
1. What is the aggregate amount of church property in the United States, and what would it yield if taxed at 6 per cent? 2. How many chaplains are employed by the National and State Governments, and what is the sum total of salaries paid to them? N. J. NEWLAND.

*Answer.*—1. The aggregate value of church property in the United States is estimated at about \$3,540,000,000. A tax of 6 per cent levied on this amount would yield to the States the enormous sum of \$212,400,000. 2. The United States statutes provide for a chaplain for each House of Congress, each drawing a salary of \$900 a year. The army regulations provide for thirty post chaplains, and four for the colored regiments. These each receive \$1,500 a year, with certain officer's privileges. There are twenty-four chaplains allowed for the navy, who receive \$2,500 a year while on duty at sea, after five years \$2,800, and decreased compensation when on leave, shore duty, etc. Chaplains are also employed by the States in the State institutions, prisons, asylums, etc., and also in the Legislatures during their session. The aggregate compensation of these officers in the different States can not be given.

## HISTORY OF MODERN ITALY.

BURCHARD, Neb.  
Give a concise history of Italy from the French Revolution to the present time. W. M. RICHIE.

*Answer.*—For three centuries prior to the French revolution Italy, which in mediæval times had far outranked all the other countries of Europe in civilization, learning and arts, had been trodden under foot by foreign spoilers and native tyrants. But during these years of humiliation, the love of liberty and the strong desire for an independent national existence, still glowed in the hearts of the Italians, and it was, strange to say, Napoleon I. who first opened the way toward the achievement of Italian freedom. Italy partly consented to join the European coalition against France in 1793, when Napoleon was just beginning his victorious onslaught upon the peace of Europe, but when, in 1797, the young conqueror turned his arms against Austria, her hereditary tyrant, Italy was only too ready to join in the campaign. The result of the alliance was embodied in the treaty of Campo Formio, Oct. 17, 1797, by which Venice alone was left under Austrian dominion, the other

States of Italy being constituted dependencies of France. In this connection, however, Italy enjoyed far more freedom and a better code of laws than she had possessed for 300 years previously. After the battle of Waterloo the Congress of Vienna reinstated all the old and hated despotisms. Sardinia and the Genoese Republic were given to the house of Savoy; Lombardy was added to the Austrian possessions; Modena, with several smaller States, was restored to the family of Este; Parma was conferred upon the ex-Empress of France, Maria Louisa; Tuscany was restored to the Austro-Lorraine dynasty; the Papal States to the Pope, and the kingdom of Naples to the Bourbons. The system of oppression adopted by the reinstated rulers soon created irreconcilable hostility between them and their subjects, and a net-work of secret revolutionary societies soon spread over the country. In 1820 and 1821 there were insurrections in Piedmont and Naples, and in 1831 a similar outbreak occurred in Modena and the Papal States, all of which were overthrown with much bloodshed by the Austrian army. Pope Pius IX on his accession in 1846, at first gave evidences of a sympathy with the popular desire for constitutional government, and instituted several wise and liberal reforms. On the outbreak of the revolution of 1848, his Holiness manifested approval of the movement and bestowed his benediction on a company of volunteers about to leave Rome for Lombardy. Soon after, however, he repented of this, allied himself with the Austrian cause, and issued an encyclical letter, commanding his subjects to detach themselves from the patriot army. The result of this was such a popular agitation that the Pope was obliged to flee from Rome for safety, and a Roman republic was proclaimed under the presidency of Mazzini. The disastrous battle of Novara, however, put an end to the hopes of the patriots, and re-established Austrian rule in Italy. The failure of this revolution produced a fierce reaction. Austrian troops exercised a crushing tyranny, and the grossest misrule prevailed in Naples and in Rome. In the Congress of Paris, in 1856, Count Cavour forcibly exposed the danger of permitting the existence of such tyranny. In 1859 came the Franco-Italian war, in which the troops of France and Sardinia united against Austria. The other states of Italy joined in the struggle and the bloody fields of Magenta and Solferino testified to Europe of the earnest purpose of Italian patriots. The peace agreed to by Louis Napoleon, however, which was believed to be treacherous, robbed the heroic Italians of the just fruits of their victories, by uniting the states in a confederation under the protectorate of the Pope. The scheme was positively rejected by popular sentiment. The revolution broke out again the following year, Victor Emanuel was proclaimed King of Italy, and the victories gained by Garibaldi and the Sardinian armies removed the last obstacle in the way of national unity. The first Italian parliament met at Turin, Feb. 18, 1861, and promulgated a decree giving Victor Emanuel

the title of King of Italy, which title was recognized by all the powers of Europe during the few months following. Though France had been indemnified for her share in the cost of the war, by the cession to her of the provinces of Nice and Savoy, French troops continued to occupy Rome ostensibly to protect the Pope, a circumstance which much embarrassed the government, and led in 1862 to another popular uprising under Garibaldi, which however, was soon quelled. In 1864 a treaty was concluded with France providing for the withdrawal of the troops. In May, 1865, the seat of government was transferred to Florence. In 1866 occurred the Austro-Prussian war, in which Italy took part with Prussia against Austria. The Italian army met with some serious reverses in this war, but the disastrous defeat of the Austrians at Sadowa decided the conflict against them. By the terms of the peace ensuing the province of Venetia was restored to Italy. In the following year war was threatened with France by another Garibaldian revolution, this time directed against the Pope. A few French troops were still quartered in Rome, and France made no objection to the raising of a legion of soldiers on her soil to enlist in the pontifical service. Garibaldi was defeated by these troops at Mentana Nov. 3, 1867, but continued risings and disturbances followed, and it was not until August, 1870, that the last French garrison was withdrawn and the government troops took possession of Rome. That city was soon after declared the capital of Italy, the King took up his residence at Rome, and in the following year the Parliament met there. The struggle between the state and the papacy continued, but various compromises gradually quieted the troubles. In January, 1878, King Victor Emanuel died and was succeeded by his son, the present King Humbert. Pope Pius IX died in the following month, and Cardinal Pecci was elected to succeed him, with the title of Leo XIII. Garibaldi died June 2, 1881. The opening of the Mont Cenis tunnel in 1871 and that of Mont St. Gothard in 1881 have proved events of great importance to Italy in stimulating her commercial prosperity.

#### THE SEVENTY-THIRD ILLINOIS INFANTRY.

Would like a sketch of the Seventy-third Illinois Infantry with names of officers when first organized.  
H. W. DUSTIN.

*Answer.*—The Seventy-third Regiment of Illinois Volunteers was raised from the State at large, and was the first regiment formed under the call for 300,000 men in 1862. It was organized at Camp Butler and mustered in Aug. 21, 1862, leaving for Louisville Aug. 26. Its officers under first organization were: Colonel, James F. Jaquess; Lieutenant Colonel, B. F. Northcutt; Major, W. A. Presson; Adjutant, R. R. Randall; Quartermaster, James W. Stevens. The regiment was one of those sent to Cincinnati when that city was threatened by Bragg's army in September, but soon after returned to Louisville to start out with Colonel Schaefer's brigade in pursuit of Bragg. It saw its first fighting at Perryville; at Stone River it was in General Sheridan's Division, in the front of the battle, and as part of the same division took an important part in the



fight at Chickamauga, losing heavily. It also participated brilliantly in the battles of Lookout Mountain and Mission Ridge. It was in the battles before Atlanta, returned and fought Hood's army under Thomas at Franklin and Nashville. When mustered out the regiment had less than 300 men. The Seventy-third Illinois was known as the "Preachers' Regiment," because Colonel Jaquess and several of the captains were ministers.

#### THE EMPERORS OF GERMANY.

PORT WASHINGTON, Wis.  
The Curiosity Shop tables of English and French sovereigns are very interesting and valuable to the student of history. We would like a table of the sovereigns of Germany from the first to the present ruler, in the order of succession, with dates of beginning and end of reign, and line of descent.

KARL J. SHEERWOOD.

*Answer.*—Previous to its union with the great Frankish Empire under Clovis, in 481, Germany was under the rule of a number of independent tribes. It had been conquered nominally by the Romans under Cæsar, but when this people endeavored to convert their nominal control of the country into real possession, they were ignominiously defeated by the barbarians under Arminius, A. D. 9. From this time the history of the country is almost wholly lost in vague traditions, until its conquest by the Franks. On the death of Clovis, in 511, his empire was divided between his four sons, Thierry, the eldest, having the Germanic possessions. Clovis was the founder of the Merovingian dynasty. During the rule of this family the entire Frankish dominion, including Germany, was several times under the rule of one powerful monarch, but on his death the fatal division among his heirs occurred. Frequent civil war marked this period, for the Merovingians were weak kings, mere phantoms of royalty, while the real power was wielded by their ministers—then called Mayors of the Palace. There were three of these, ostensibly chosen to govern the three kingdoms—Austria, or the eastern part, which included Germany, Neustria, the northern part, and Burgundy, the southern part of France—into which the Frankish dominion had been divided. The mayors of Austria, becoming the most powerful, took the title of dukes, and finally became virtual rulers of the kingdom. The most illustrious of these, Pepin of Heristal, governed the kingdom during the nominal reign of three successive kings. This man is notable also as the founder of the great Carolingian dynasty. On his death, (714) his son—known to history as Charles Martel—succeeded to even more absolute power. Twenty years later his son, Pepin the Short, confined the last of the Merovingian kings, Childeric III., within the walls of a convent, and, with the consent of the clergy and the Pope, assumed the title of King. His son, Charlemagne, governed the entire Frankish Empire; but upon the death of his son Louis—or Ludwig, as he was called by the Germans—it was divided, and Germany and France were not subsequently under one rule for more than an occasional brief period. After the death of Ludwig IV. (properly Ludwig III., but as there was a Louis III. of

France at nearly the same period that numeral is omitted in the list of German sovereigns) the Emperors of Germany were elected by the rulers of the small states into which that country was divided; even when the succession was kept in the same family for several generations, the form of election was always observed. We have not noted the fact, however, unless the choice was outside the line of royal succession. We begin our tables of German Emperors with

#### The Carolingians.

NAME OF RULER.	Length of Reign.	Line of descent.
Pepin.....	752-768	.....
Charlemagne.....	768-814	Son of Pepin.
Ludwig I.....	814-840	Son of Charlemagne.
Lothair I.....	840-855	Son of Ludovic.
Ludwig II.....	855-875	Son of Lothair.
Charles II. (Also King of France.	875-877	Younger brother of Lothair.
Charles III. (Also King of France.	877-888	Son of Louis, the third brother of Lothair.
Arnulf.....	888-899	Nephew of Charles III.
Ludwig IV.....	899-910	Son of Arnulf.

#### Houses of Franconia and Saxony.

NAME OF RULER.	Length of Reign.	Line of descent.
Conrad I., Duke of Franconia....	911-919	Elected Emperor.
Henry I., Duke of Saxony.....	919-936	Elected Emperor.
Otho I. (the Great)	936-973	Son of Henry I.
Otho II.....	973-983	Son of Otho I.
Otho III.....	983-1002	Son of Otho II.
Henry II., Duke of Bavaria.....	1002-1024	Elected Emperor. Great-grandson of Henry I.
Conrad II., Duke of Franconia....	1024-1039	Descendant of Conrad I.
Henry III.....	1039-1056	Son of Conrad II.
Henry IV.....	1056-1106	Son of Henry III. Forced to abdicate by his son, Henry V.
Henry V.....	1106-1125	.....
Lothair II., Duke of Saxony.....	1125-1137	Elected.

#### House of Hohenstauffen, or the Ghibellines.

NAME OF RULER.	Length of Reign.	Line of descent.
Conrad III., Duke of Swabia and Franconia.....	1137-1152	Descended through the female line from Henry IV. Elected.
Frederick I. (Barbarossa).....	1152-1190	Nephew of Conrad III.
Henry VI.....	1190-1197	Son of Frederick I.
Philip.....	1197-1208	Brother of Frederick I. Assassinated.
Otho IV., Duke of Brunswick.....	1208-1212	Elected by the Guelphs, the opposing political party, but could not hold the power.
Frederic II.....	1212-1250	Son of Henry VI.
Conrad IV.....	1250-1254	Son of Frederick II. From 1254 to 1273 a time of anarchy prevailed, during which several rival kings were elected but none obtained any real authority.

#### Houses of Hapsburg, Luxemburg, and Bavaria.

NAME OF RULER.	Length of Reign.	Line of descent.
Rudolph I., Count of Hapsburg.....	1273-1291	Elected Emperor.
Adolf, Count of Nassau.....	1291-1298	Elected. Was ordered to abdicate by other German princes, and, refusing, was killed in battle between the rival factions.
Albert I.....	1298-1308	Son of Rudolph.
Henry VII., Duke of Luxemburg.....	1308-1313	Elected.
Ludwig V., Duke of Bavaria.....	1313-1347	Son of daughter of Rudolph. Elected.



NAME OF RULER.	Length of reign.	Line of descent.
Charles IV., King of Bohemia.....	1347-1378	Elected.
Wenceslas.....	1378-1400	Son of Charles IV. Deposed.
Robert, Count of the Palatinate.....	1400-1410	Elected.
Rigismund.....	1410-1437	Son of Charles IV.
Albert II., Arch-duke of Austria.....	1437-1439	Descendant of Albert I.
Frederick III.....	1439-1493	Son of Albert II.
Maximilian I.....	1493-1619	Son of Frederick III.
Charles V.....	1518-1556	Grandson of Maximilian. Abdicated the throne.
Ferdinand I.....	1556-1564	Brother of Charles V.
Maximilian II.....	1564-1576	Son of Ferdinand I.
Rudolph II.....	1576-1612	Son of Maximilian II.
Matthias.....	1612-1619	Brother of Rudolph II.
Ferdinand II.....	1619-1637	Grandson of Ferdinand I.
Ferdinand III.....	1637-1657	Son of Ferdinand II.
Leopold I.....	1658-1705	Son of Ferdinand III.

The imperial power in Germany had been waning from the time of the Thirty Years' War (1618-48), and was now merely a name. It was retained for nearly a century longer as an empty title by the rulers of Austria, Joseph I., Charles VI., Francis I. (the husband of Maria Theresa, whose enemy, Charles Albert of Bavaria, was also crowned as Charles VII.), Joseph II., and Leopold II. In the meantime Prussia, originally a part of the Germanic Empire, had become a powerful State, and its influence thwarted the efforts of the Austrian Emperor, Joseph II., during his reign, 1778-90, to re-establish the imperial authority in Southern Germany. The French revolution utterly prostrated the tottering fabric of the German Empire. The Austrian Emperor, Francis II., son and successor of Leopold II., was vanquished by Napoleon, and ceded to France all the country on the left bank of the Rhine. In 1806 the Rhenish Confederation was formed under the protectorate of Napoleon, and the empire was formally dissolved, and the entire country once belonging to this empire was reduced to a condition of French vassalage, with the exception of Austria and Prussia. This included 300 small states, duchies, free cities, etc. The smaller of these were consolidated or annexed to the larger ones during French dominion, so that when the independence of the country was re-established, in 1815, by the aid of Austria, Russia, Prussia, Sweden, and Great Britain, there were but forty left to enter the new confederation formed. An attempt was made in 1848 to form a national government. In 1849 the King of Prussia was offered the title of German Emperor, but he declined the honor. The confederation continued until June 14, 1867, when it was dissolved by Prussia, and a new union of states called the North German Confederation was formed. The four states of Southern Germany, Baden, Hesse, Wurttemberg, and Bavaria, refused to join this confederation through jealousy of the power of the largest state, Prussia. All national affairs were regulated by a parliament or diet. During the Franco-Prussian war, in which all the German states, both north and south, participated, the four outside states entered the federation, and immediately upon the close of the war the states were further consolidated by a vote of the Federal Diet, which changed the name German Confederation to that of the German Empire, and invested the King of Prussia, as President of the

confederation, with the title of Emperor of Germany. As the history of Prussia has formed such an important part of that of Germany during the past century and a half, that by many readers the two names are taken as synonymous, we give below a table of the Prussian Kings. The regal power has been, from the establishment of the kingdom in 1701, in the line of one family—the Hohenzollerns—a very old family in German history, but dating its power to the time when one of its representatives became, in 1415, possessor of the electorate of Brandenburg. In 1618 the duchy of Prussia, then a very limited territory, passed into the hands of the family by inheritance. Frederick William, known as the Great Elector, who governed this territory from 1640 to 1688, enlarged his dominion by purchase and otherwise, and ruled with such shrewd and vigorous policy that at his death his possessions included 45,000 square miles and 1,500,000 inhabitants. His son Frederick, by consent of the German Emperor, assumed the title of King of Prussia, and was crowned as such Jan. 18, 1701.

#### Prussian Kings.

NAME OF KING.	Length of Reign.	Line of descent.
Frederick I.....	1701-1713	.....
Frederick William I.....	1713-1740	Son of Frederick I.
Frederick II., (the Great).....	1740-1786	Son of Frederick William I.
Frederick William II.....	1786-1797	Nephew of Frederick II.
Frederick William III.....	1797-1840	Son of Frederick William II.
Frederick William IV.....	1840-1861	Son of Frederick William III.
William I. (Now Emperor of Germany).....	1861- ....	Brother of Frederick William IV.

#### HISTORY OF THE VIOLIN.

Give the early history of the violin, by whom made and performed. CHICAGO, W. A. CLARK.

Answer.—The violin in its earlier forms is of great and uncertain antiquity. Its origin is traced to a stringed instrument used in India from the earliest ages, the ravanastrom, which, a Buddhist tradition says, was invented by Ravana, King of Ceylon, 5,000 B. C. A similar instrument was the crwth of Wales, which is known to have been in use long before the sixth century among the Britons, and to which the Anglo-Saxons gave the name of fythel, whence our word fiddle. The immediate precursor of the violin was the viol, which is known to have been in use in the tenth century. This was flat above and below, had very deep bends in the sides, used from three to six strings, and was played with a bow. But the violin of modern form was not made until the fifteenth or sixteenth century. The earliest maker of the modern violin whose instruments are authenticated was Gaspard di Salo, of Lombardy, who worked between 1560 and 1612. To one other maker living before this time, Gaspard Dulfoprugear, some existing instruments are attributed, but it is very doubtful whether this maker constructed anything else than viols and lutes. The Italian

school of violin-making had its origin in Brescia, and, as far as is now known, was founded by Gaspard di Salo. The greatest of the Brescian makers was Giovanni Paolo Maggini, who lived about 1590-1640, and whose instruments still hold a place among the best ever made. But soon the Brescia violin makers were eclipsed by those of Cremona, whose instruments have been objects of wonder and admiration from their time to the present, possessing a tone and quality that subsequent makers have tried in vain to equal. The three greatest of the many successful violin-makers among the numbers who for generations kept up the reputation of Cremonese work, were Nicholas Amati, Joseph Guarneri del Gesu, and Antonius Stradivarius. Very little is now known of these great makers, for in their day they were simply hard-working artisans who sold for a few florins instruments which now command hundreds and even thousands of dollars. Experience has shown that the minutest details of form and proportion, and the material of which each separate part is made, are matters of vital importance to the quality of the violin. The great makers seem to have secured by many delicate experiments the very perfection of acoustical quality, which dexterity and careful workmanship enabled them always to fully reproduce.

#### NORTHERN BOUNDARY OF THE UNITED STATES.

HUNTER, Ill.  
How is the boundary line between the United States and British America marked?

W. H. THORNTON.

*Answer.*—The Northern boundary of our country is marked by stone cairns, iron pillars, earth mounds, and timber posts. The stone cairns are 7½x8 feet, the earth mounds are 7x14 feet, the iron pillars are 7 feet high, 8 inches square at the bottom, and 4 inches at the top; the timber posts are 5 feet high and 8 inches square. There are 385 of these marks between the Lake of the Woods and the base of the Rocky Mountains. That part of the boundary which lies east and west of the Red River Valley is marked by cast iron pillars at even mile intervals. The British have placed each alternate one of these pillars and the United States those between. Upon one side of each post is cast the inscription "Convention of London," and on the other side "Oct. 20, 1818." Where the line crosses lakes, stone heaps have been built in the water, projecting several feet above high water mark at the surface. In forests the line was first marked by felling the timber a rod wide and clearing away the underbrush. Where this has since been cleared away, posts have been put in its place.

#### BACTERIA.

ELDERA, Iowa.  
What are bacteria? Do they ever cause fermentation, and how?

C. W. WOODWARD.

*Answer.*—Bacteria is the name given in microscopy to certain cells, cylindrical in shape, found in animal and vegetable fluids. Their name is given to them because of their shape, and is derived from a Greek word meaning a club. They are mere points of organized matter, and constitute the lowest form of organic life. They are

found either single or compound, and multiply by transverse division. They are found in the sap of plants, in the blood of man and of the lower animals, and are abundant in eggs. They act as powerful organic ferments in the transformation of starch into sugar, of cane sugar into glucose, etc. They bear an important part in healthy as well as morbid processes, in the ripening of fruit as well as decay. They can exist in all fluids, acids, alkalis, and neutral fluids. They also exist in suspension in the air, and the festering of an open sore is occasioned by the entrance of bacteria from the surrounding air. The existence in the atmosphere of these minute and omnipresent living atoms explains many supposed instances of spontaneous generation of organic life. In fact, spontaneous generation can never be fully tested, because of the constant presence of these infinitesimal animalcula.

#### WEALTH OF PRINCIPAL NATIONS.

WAUKAU, Wis.  
Give the amount of estimated wealth of the principal nations of the globe.

S. B. SUTHERLAND.

*Answer.*—The subjoined is the estimate given in Mulhall's "Dictionary of Statistics." It is only an approximation, of course, but probably is as near the correct truth as such approximations ever are:

Argentina Republic .....	\$1,660,000,000
Australia .....	4,950,000,000
Austria .....	18,060,000,000
Belgium .....	4,030,000,000
Canada .....	3,250,000,000
Denmark .....	1,830,000,000
France .....	40,300,000,000
Germany .....	31,615,000,000
Greece .....	1,055,000,000
Great Britain and Ireland .....	43,600,000,000
Holland .....	4,935,000,000
Italy .....	12,755,000,000
Mexico .....	3,190,000,000
Norway .....	1,410,000,000
Portugal .....	1,855,000,000
Spain .....	7,965,000,000
Sweden .....	3,475,000,000
Switzerland .....	1,620,000,000
United States .....	47,475,000,000

#### THIRTY-EIGHTH ILLINOIS.

CAMERON, Neb.  
A brief account of the Thirty-eighth Illinois Infantry is requested, with something about its Colonel, W. F. Carlin.

G. B. S.

*Answer.*—The Thirty-eighth Regiment of Illinois Volunteers was organized at Camp Butler, and mustered into service Aug. 15, 1861. Sept. 20 it left for Pilot Knob, Mo. It marched to Fredericktown Oct. 20, engaging in the battle there on the following day, and then returned to Pilot Knob, where it passed the winter. It was campaigning in Missouri and Arkansas from March 3 to May 10, 1862, and was then transferred to the Department of the Mississippi, going directly to the front at Corinth, and taking part in the last days of the siege. It was engaged in skirmishing during the summer, and saw its first severe battle at Perryville Oct. 8. It then joined in the pursuit of Bragg, and was at the battle of Stone River, where it lost heavily. It was in camp at Murfreesboro until the following June. It was in the fight at Liberty Gap, and at the battle of Chickamauga fought with great gallantry, meeting with heavy loss in killed and wounded. Sept. 22 it moved into Chattanooga, and stayed



over a month throwing up fortifications and doing guard duty. In February most of the regiment re-enlisted, and in March started for home on veteran furlough, returning to the field in May. June 8 it joined General Sherman's army, and took part in the movement upon Atlanta. It was also in the engagements at Jonesboro and Lovejoy's Station, and in October started on the return march to Tennessee, reaching Pulaski Nov. 12. It bore a creditable part in the battles of Franklin and Nashville, and joined in the pursuit of Hood which followed. It was encamped at Huntsville, Ala., from Jan. 5 until March 13, 1865. June 9 the non-veterans of the regiment were mustered out, and June 17 the veterans started for New Orleans. The regiment went on to Indianola, Texas, reaching there July 15. It was stationed in Texas until March 20, 1866, when it was mustered out at Victoria, and returned to Springfield for final discharge. Colonel Carlin, its able commander, was born in Green County, Illinois, Nov. 24, 1829. He entered West Point Military Academy in 1846, and graduated in 1850. He served at various posts in the West, took part in General Harney's Indian campaigns, General Sumner's expedition against the Cheyennes, and General A. S. Johnston's Utah expedition. He was assigned to the command of Fort Bragg, on the Pacific coast, but was at Buffalo, N. Y., engaged in general recruiting service when the war broke out. He was offered important positions in the volunteer army of New York, but declined these, wishing, if he entered the volunteer service, to be associated with the men of his native State. Governor Yates commissioned him colonel of the Thirty-eighth Illinois Regiment, and he soon distinguished himself. He commanded in several important expeditions, and was for some time commander of the district of Southeast Missouri. He was made brigadier general of volunteers Nov. 29, 1862, and brevet major general March 19, 1865. He was mustered out of the volunteer service in August, 1865, and was again enrolled in the regular army.

#### THE CANADIAN PACIFIC RAILWAY.

LEMARS, IOWA.

Give some account of the Canadian Pacific Railway, its opening, history, etc.

B. PRICE.

*Answer.*—The last spike of the Canadian Pacific Railway was driven Nov. 6, 1885, at a point fifty miles west of the Rocky Mountains. There was no ceremony, the spike being driven by a workman in the ordinary discharge of his duty. The last section of road completed was the forty-mile section west of the Selkirk Mountains. The length of the line from Montreal to the Pacific coast terminus is 2,895 miles. This railroad was first projected in 1871, when British Columbia was added to the Dominion of Canada. Little was known of the difficulties to be overcome in the work; a company was readily formed to undertake it, for as the road was a political necessity, government aid was considered certain. Jan. 14, 1872, the Canadian Parliament passed an act providing that the new road should be built and conducted by a private Canadian company, to be assisted by the government with land grants not

to exceed 50,000,000 acres, and a cash subsidy of not more than \$30,000,000. The work was to be commenced July 20, 1873, and to be completed July 20, 1881. After the work was begun it was found to be much more difficult and expensive than had been expected. There were political scandals also, concerning the connection of the government with the company building the road, not unlike the Credit Mobilier affair in this country. Finally, the railroad company failed, and the road came into the hands of the government. Liberal land grants were offered, and a cash subsidy of \$10,000 a mile, but no company could be found willing to undertake the work. At last, in 1880, a corporation was formed to complete the road, the government granting \$25,000,000 and 25,000,000 acres of land. In addition to this, bonds aggregating \$33,000,000 were afterward granted to the company. The total cost of the road has been nearly \$250,000,000. It is not at all likely that it will pay for many years, but it will unquestionably prove a great advantage to the country, and will in time fully pay the cost of its construction.

#### CANDLES—CAPS—QUEEN VICTORIA'S INCOME.

LYONS, IOWA.

1. When were candles first made? 2. When were caps first worn? 3. What is the salary of the Queen of England?

MARY DAILEY.

*Answer.*—1. Candlesticks are mentioned in the Bible, but there seems to be no doubt that these were lamps for burning olive oil rather than supports for what are now called candles. The candles used by the Greeks and Romans were rude torches made by dipping strips of papyrus or rushes into pitch, and afterward coating them with wax. In Europe this candle was in use during the middle ages, the wick being of twisted tow. Often these were very large and heavy. Among the poorer classes candles were made by soaking splints of wood in fat or oil. The use of these wood splints is mentioned in English history about the beginning of the fourteenth century. Wax candles were also made during this century, but they were expensive and deemed a great luxury. Soon after this a dipped candle made from tallow was introduced. A company for making wax candles was incorporated in London in 1484. Mold candles are said to be the invention of the Sieur Le Brez, of Paris. Spermaceti candles are of modern manufacture. 2. Among the ancients, men, as a rule, wore no covering on the head. Primitive man, however, in Northern climes early adopted the use of a hood, made of fur, during the winter season. The Phrygians were the first among the inhabitants of warm latitudes to wear a head-covering, and they only adopted the fashion after they had conquered Asia Minor, for the sake of distinguishing themselves from the subjugated race with whom they lived. The Romans took the Phrygian cap, a small, close-fitting covering, and among them too it was only worn by free citizens. Hats were first made in Paris in 1404, by a Swiss manufacturer. 3. The annual appropriation for the Queen of England is £385,000, or about \$1,925,000. From this sum all the cost of the royal household is paid, which includes the ex-



penses and salaries of nearly 1,000 officers and servants. The amount set aside for Queen Victoria's personal use, or privy purse, as it is called, is \$60,000, or \$300,000.

#### GENERAL H. W. HALLECK.

SOUTH BEND, Ind.  
A brief biography of General Halleck is desired.  
J. A. MCGILL, M. D.

*Answer.*—Henry Wager Halleck was born near Utica, N. Y., in 1814. He graduated at West Point in 1839. He served in the Mexican war in 1846-47 as first lieutenant. He became a captain of engineers, but resigned his commission in 1854 and practiced law in San Francisco for six years. In August, 1861, he was appointed a major general of the United States army. He was put in command of the department of Missouri in November, 1861, and in March, 1862, was placed over the department of the Mississippi. He commanded in person at the siege of Corinth in May, 1862. He was made general-in-chief of the armies of the United States July 11, 1862, and made his headquarters at Washington, whence he directed the movements of the generals in the field. He was superseded March 12, 1864, by General Grant, and was then appointed chief of staff of the United States army. He took command of the military division of the Pacific in August, 1865. March 16, 1869, he was transferred to the military division of the South, with headquarters at Louisville, Ky., where he died Jan. 9, 1872.

#### OUR CONGRESSES.

PARKVILLE, Mich.  
Why is the present Congress called the Forty-ninth?  
E. H. K.

*Answer.*—The first session of the First Congress began March 4, 1789, and closed Sept. 29, 1789; the second session began Jan. 4, 1790, and closed Aug. 12, 1790; and the third session began Dec. 6, 1790, and closed March 3, 1791. An excellent rule to determine the years covered by a given Congress is: Double the number of the Congress, and add the product to 1789; the result will be the year in which the Congress closed. Thus, the Forty-ninth Congress equals 98, plus 1789, equals 1887. To find the number of a Congress sitting in any given year, subtract 1789 from the year; if the result is an even number, half that number will give the Congress, of which the year in question will be the closing year; if the result is an odd number, add one to it, and half the result will give the Congress, of which the year in question is the first year.

#### A MOHAMMEDAN MUEZZIN.

AMORA, D. T.  
Who was Muezzin, and what had he to do with Mohammedanism?  
S. E. MORSE.

*Answer.*—Muhammad, or Muezzin, is the name in the Arabic of the Mohammedan official attached to a mosque, whose duty it is to announce the different times of prayer. His chant is repeated at intervals and consists of these words: "Allah is most great. I testify that there is no God but Allah. I testify that Mahomet is the apostle of Allah. Come to prayer. Come to security." In the morning the words "Prayer is better than sleep"

are added. "Allah is most great. There is no deity but Allah!" Besides these regular calls two more are chanted during the night for those pious persons who wish to perform special nightly devotions. The first continues after the usual chant, given above, in this manner: "There is no deity but Allah! He hath no companion—to him belongeth the dominion—to him belongeth praise. He giveth life and causeth death. And he is living and shall never die. In his hand is blessing, and he is almighty." The second of these night calls takes place an hour before daybreak, and begins as follows: "I extol the perfection of Allah, the existing forever and ever; the perfection of Allah, the desired, the existing, the single, the supreme," etc. It is stated that the office of Mueddin is generally intrusted to blind men only, lest they might, from their elevation, have too free a view over the surrounding terraces and harems. A writer on this subject remarks: "The harmonious and sonorous voices of the singers, together with the simplicity and solemnity of the melody, make a strikingly poetical impression upon the mind of the hearer in the day time; much more, however, is this the case whenever the sacred chant resounds from the height of the mosque through the moonlit stillness of an Eastern night."

#### FROM THE POPE TO WASHINGTON'S MONUMENT

LOS ANGELES, Cal.  
What became of the stone contributed to the Washington Monument by Pope Pius IX?  
JAMES A. COOPER.

*Answer.*—In 1855 the Pope sent a beautiful block of white marble to be used in the construction of the Washington Monument. This was the time when the Know-Nothing agitation was in progress, and great excitement prevailed against foreigners in general and Roman Catholics in particular. One night a band of men carried away the Pope's gift, broke it into pieces, and threw it into the Potomac. The names of the perpetrators of this act were never known.

#### MENTHOL.

JOLIET, Ill.  
Tell something about the nature and properties of menthol.  
J. C. MOD.

*Answer.*—Menthol is a white crystalline substance deposited from oil of peppermint. It is obtained by freezing and thawing the oil several times, the crystal being deposited during the congealing process. The Japanese oil is generally used in the manufacture of menthol, as it yields the crystal more richly than the others. These crystals melt at 97 degrees Fahr., are slightly soluble in water, and entirely soluble in ether and the volatile oils. Menthol is a new discovery in American medicine, but there is evidence that its peculiar nature and virtues have been known in China and Japan for many years. The drug has been found a reliable remedy in the less severe neuralgic affections of the face, especially in brow-pains. The strength usually employed is one part of pure menthol to ten of alcohol. If the finger or a piece of cotton be dipped in this preparation and then rubbed lightly over the locality of the pain, the relief is almost immediate. The "Ger-

man head-ache pencil" is simply a concentrated and solid preparation of menthol which is used to rub over the affected parts.

#### GENERAL GRANT AND PRESIDENT JOHNSON.

SALT LAKE, U. T.

Give an account of the actions of President Johnson, between the re-instatement, by order of the Senate, of Stanton as Secretary of War, and his order to Lorenzo Thomas to take possession of that office and his subsequent impeachment.

O. J. HOLLISTER.

*Answer.*—Dec. 7, 1867, immediately after the convening of the Fortieth Congress, President Johnson sent to the Senate a statement of the reasons for his suspension of Secretary Stanton from the duties of his office. The Senate, after consideration of the message, refused to approve of the suspension, and it thereby became void. This was on Jan. 13, 1868. General Grant, who had been acting as Secretary ad interim, surrendered the office on the following morning to Mr. Stanton, and immediately wrote to inform the President of his action. To this Mr. Johnson replied by requesting Grant's presence at a Cabinet meeting that day. Stanton was not present at that meeting. When the Secretary of War had been reached in the order of business, General Grant made a full statement of his resignation of the office. The President expressed great surprise at this action, and reminded General Grant that shortly after his assumption of the duties of the war office he (Johnson) had asked him whether he would retain the office in the event of a refusal on the part of the Senate to concur in the suspension of Mr. Stanton; and, the President continued, General Grant had then agreed "either to remain at the head of the War Department till a decision could be obtained from the courts, or to resign the office into the hands of the President before the case was acted upon by the Senate, so as to place the President in the same situation he occupied at the time of his (Grant's) appointment." In reply General Grant fully admitted that this conversation had occurred, but said that at the time he had not fully understood the force of the tenure-of-office act; that, subsequently, he had come to the conclusion that he could not lawfully hold the office against the wishes of the Senate; and that he had notified the President in an interview but a few days previous, of the change in his views, to which his (the President's) reply had been that "he had not removed Mr. Stanton under the tenure-of-office act, but under the Constitution." General Grant also said that though no clear understanding as to future action had been reached in this interview, he fully believed that the President knew that he would not retain the office. This colloquy, according to the testimony of the other members of the Cabinet present, was not at all an excited one, but was respectful and courteous on both sides. Subsequently, however, the President and General Grant had quite a warm correspondence concerning this subject. The President greatly resented General Grant's failure to inform him beforehand of his determined course of action, and General Grant, though admitting that he had intended to see the President again before the mat-

ter came up in the Senate, but failed to carry out this intention because "he did not think the Senate would act so soon," denied Johnson's imputation of bad faith in the matter. All this correspondence was subsequently laid before Congress. Another cause of heated feeling was in the fact that the President, immediately after General Grant's retirement from the Secretaryship, had forbidden him to pay any regard to the orders of Mr. Stanton as Secretary of War until he had been assured by the President himself that they were his (the President's) orders. This command placed General Grant in somewhat of a dilemma, as, according to custom, a certain part of the business of the War Department was carried on without any direct reference to the Executive, and no intimation had been given him that this independent part of the department had been restricted. On applying to the President for more definite instructions, Mr. Johnson replied by charging him with insubordination and a desire to evade obedience of direct commands. This charge General Grant distinctly denied in the letter which (under date Feb. 11, 1868) closed this remarkable correspondence. Feb. 21 the President, exasperated at Secretary Stanton's hostile attitude toward him, again ordered the removal of that officer, and appointed General Lorenzo Thomas to be Secretary of War ad interim. General Thomas, on receiving his appointment, proceeded at once to the war office. Mr. Stanton apparently assented to his removal, and asked for time to remove his private papers, which General Thomas granted. Meanwhile the Senate had been informed by letter from the President of Secretary Stanton's second removal and the appointment of General Thomas. As soon as possible this body laid aside its regular order of business, and went into executive session to consider the matter. After a very excited debate, which lasted until a late hour in the evening, a resolution was passed, by nearly a party vote, declaring that the President had no right, under the Constitution and laws of the United States, to remove the Secretary of War. Mr. Stanton, during this time having been informed that his action would be sustained by the Senate, refused to vacate the office on the second application of General Thomas, and made his arrangements to occupy it night and day until the further action of Congress. He also made application to the Chief Justice of the Supreme Court of the District of Columbia for a writ commanding the arrest of General Thomas. This latter officer was arrested the next day, but was released on his own recognizance. On the same day the House of Representatives passed a resolution impeaching the President for high crimes and misdemeanors.

#### POSTAL SAVINGS BANKS.

CENTRAL CITY, Neb.

Give the history of postal savings banks in England, with some facts concerning their work and success.

E. L. WHITE.

*Answer.*—The plan of the postoffice savings banks of Great Britain was first suggested in 1860 by Mr. Sykes, Member of Parliament for Huddersfield, Eng. The suggestion was cordially adopted by Mr. Gladstone, then Chan-



cellor of the Exchequer, who brought the matter in the form of a bill before Parliament and warmly advocated its passage. It was passed early in the following year and received the royal assent May 17, 1861, and came into practical operation in the following September. In 1862 the plan became operative in Scotland and Ireland also. The plan has been a success from the beginning, over 367,000 deposit accounts being opened during the first two years, representing an aggregate of £4,702,000, or about \$23,510,000. According to the postoffice reports of 1883 there were in the United Kingdom 7,369 postoffice savings banks, with 3,105,642 accounts open at the end of the year, the deposits during the year amounting to £13,575,167, or about \$67,875,835, and the amount standing to the credit of all open accounts at the end of the year, £41,768,808, or about \$208,940,040. A separate account is kept with every depositor, and the receipt of every deposit is acknowledged. The rate of interest paid to depositors is  $2\frac{1}{2}$  per cent annually or one halfpenny per pound a month. Every depositor receives a savings bank book which he sends yearly for examination to the head office, and the interest on his deposit is there calculated and allowed in the book. Any part or all of a deposit will be paid at any time by any of the offices on receipt of a certified order from the central office. The management of these banks has always been thoroughly efficient, and there is no doubt that they have been of great advantage to the poor people of Great Britain.

#### STAMMERING.

Will Our Curiosity Shop give some facts about stammering? What is the cause of it, and is there any cure for it? C. S.

*Answer.*—Stammering is an affection of the vocal organs, causing a hesitancy and difficulty of utterance. The best authorities now regard its origin as distinct from any physical defect. There can be no doubt that the impediment is aggravated by physical weakness or debility of any kind, but these influences have nothing to do with the primary cause of the infirmity. A nervous dread of speaking is usually associated with stammering, but this is rather a result than a cause. If constitutional nervousness were productive of stammering the number of cases would be much greater and include an excess of females over males, whereas the fact is that men furnish by far the greater proportion of those so affected; besides, stammerers are not in general persons of weak nerves otherwise than in the act of speaking. Nervousness is associated with speech in stammering because of the consciousness that the defect is made the subject of observation. The strength of the impediment lies in habit, in mismanagement of the breath and organs of utterance, rendered habitual in extreme youth; and the removal of the defect depends upon the acquirement of voluntary control over the organs of speech. Children have often been known to be infected with the habit by the most casual example. If, on the first appearance of this defect on the part of a child, parents and nurses were careful to check it by patient direction and instruction, an unfortun-

ate habit of a life-time might always be prevented. Stammering usually makes its appearance at about the fifth year, but harshness and impatience with children, especially if there is constitutional timidity combined with natural slowness of mental action, may induce it at even a much later period. The varieties of stammering are very great. Sometimes there is great muscular disturbance and a painful effort to articulate certain letters. This trouble arises from disordered respiration and disappears when the habit of closing the glottis is overcome and the air is allowed to pass freely in and out of the lungs. Another trouble consists in the reiteration of syllables before words can be fully formed. The source of this difficulty arises from the habit of trying to speak with the mouth rather than the throat. All effort of speech should proceed from the throat and when this change is made fluency can be easily regained. Stammering is in nearly every case quite curable by the cultivation of a habit of correct speaking. This can only be acquired by studying the processes of speech, the relation of breath to articulate sounds, the position of the tongue and other vocal organs, and a patient application of these principles in slow and watchful exercise. The lungs constitute a pair of bellows, and the mouth in all its varying shapes the nozzle of the bellows. The passage of the throat must be kept open and the breath expelled by means of the ascent of the diaphragm, not by downward pressure of the chest. All sound originates in the throat, and all effort in speech must be thrown back behind the articulating organs, which must be kept passive, yielding to the air, always opening to give it exit, and never resisting it by the ascent of the tongue or of the jaw. The head must be held firmly on the neck to give free play to the organs, and the fact never forgotten that fluency of speech depends upon the unrestrained emission of the material of speech, which is breath. The one difficulty found in curing stammering by the application of these common-sense principles is that the victim of the habit has not the needed patience and persistence to apply them.

#### THE CAPTURE OF GENERAL SCOTT.

BUDA, Hl.  
Please give a brief sketch of the capture of General Winfield Scott in the war of 1812. P. M. PACKARD.

*Answer.*—After Hull's surrender in August, 1812, the army was greatly demoralized, and it was evident that an attack must be made to retrieve the National honor. The Army of the Center, under General Van Rensselaer, was therefore massed on the banks of the Niagara River, with the purpose of invading Canada. Oct. 13, Van Rensselaer crossed the river at Lewiston. The British were entrenched on Queenstown Heights, nearly opposite. The landing was desperately resisted. Colonel Scott and Captain Wool led the Americans in charge after charge, driving the British before them. Three times they won the victory. Van Rensselaer then returned to the American shore to bring over the rest of his troops. These were mainly New York militia.

altogether unused to the terrors of battle. The sight of the bloody struggle on the opposite side of the river, of the field strewn with dead and dying, wholly unnerved them. To the General's order, therefore, their officers returned the reply that he had no right to take the militia out of the State, and they refused to follow him. "Fifteen hundred able-bodied men," says an historian of the time, "stood cowardly by their constitutional rights while their comrades vainly struggled against the odds of their swarming foes." Scott, on the other side, finding that no help could be sent him, mounted a log before the remnant of his troops, and urged them to renew the attack. "Hull's surrender," he said, "must be redeemed. Our condition is desperate. Let us die arms in hand. Our country demands the sacrifice. The example will not be lost. The blood of the slain will make heroes of the living. Those who follow will avenge our fall and our country's wrongs. Who dares to stand?" A loud "All!" rang along the line. Another charge was made with desperate courage, but the numbers of the enemy were overwhelming, and all who were not killed were taken prisoners. In January, 1813, Scott was exchanged, and joined the army under General Dearborn as adjutant general.

#### THE POLES IN PRUSSIA.

Is it true that the Prussian government has obliged the Poles to sell their land estates, and also will not permit them to rent them? If so, why is it?

G. B. S.

*Answer.*—The Prussian government, in the summer of 1885, issued an order for the expulsion of all Poles from the country. They were to be allowed a certain length of time to dispose of their effects, and at the end of that time were obliged to depart, whatever their circumstances or condition of health. As the Russian government refused to admit these banished people into Russia unless they could prove that they were born in that country, their hapless condition aroused much sympathy in the German States, and upon the meeting of the Reichstag or German Parliament, a resolution was passed requesting an explanation of this action. To this Chancellor Bismarck replied that the matter was a Prussian affair wholly, and as he could not admit the right of the Reichstag to concern itself in those affairs that were exclusively the province of the States, he could give no explanation. Subsequently, however, a similar resolution was passed by the Prussian Landtag, or local assembly. To this Bismarck replied, Jan. 28, 1886, at some length. He said that the primary cause of the government's action was the disloyalty of the Poles to the German crown. They were always, he said, engaged in intrigues, endeavoring to set foreign states against Prussia, and keeping up a continual agitation against the government. The government had therefore decided to banish the evil element that made all this trouble. The government had decided to purchase all the real estate owned by the Polish nobles in Prussian Poland, and place German colonists on the land hitherto occupied by the expelled people. None of the Poles were to be allowed to repossess the land, even by rent-

ing it, and to make its colonization more permanently valuable to the German Empire, the colonists were to be forever prohibited from marrying Poles. While it is admitted that the government will have some difficulty in carrying out these extreme measures if they are not concurred in by a majority of the Prussian assembly, it is certain that neither Bismarck nor the King is likely to concede a single point of the plan, and their influence is quite powerful enough to bear down all opposition to these measures.

#### THE PARTITION OF POLAND.

Is any part of Poland now any part of Germany?  
CHEROKEE, IOWA.  
L. P. S.

*Answer.*—Not any part of the country now bearing the name of Poland is a part of Germany, for Poland is altogether a dependency of Russia. But Germany, or rather Prussia, has taken several shares of the territory of the unhappy Poles at the several partitions of that country. The first partition was made in 1773. This divided a large part of Poland and its people between the three powers of Russia, Prussia, and Austria as follows:

	Territory, square miles.	Population.
Russia.....A.	42,000	1,800,000
Prussia.....	13,000	426,000
Austria.....	27,000	2,700,000

The second partition, in 1793, divided additional territory between Russia and Prussia thus:

	Territory, square miles.	Population.
Russia.....	96,000	3,000,000
Prussia.....	22,000	1,100,000

The third partition, in 1795, distributed the remainder of the country as follows:

	Territory, square miles.	Population.
Russia.....	43,000	1,200,000
Prussia.....	21,000	1,000,000
Austria.....	18,000	1,000,000

In 1815 the Congress of Vienna made a re-arrangement of this territory. The shares of Austria and Prussia were considerably diminished, and the parts taken from them were united as the Kingdom of Poland, under the sovereignty of the Czar of Russia. The partition, as finally arranged, stood thus:

	Extent in square miles.	Population.
Russia.....	220,500	16,000,000
Prussia.....	26,000	3,000,000
Austria.....	35,500	5,000,000

The Russian share included ten provinces, thoroughly incorporated into the Russian Empire, besides the part given the name of the Kingdom of Poland and a pretense of local self-government. The Prussian part included the Province of Posen and some smaller provinces; this is now thoroughly incorporated with the German Empire, just as the Austrian part, containing Galicia and several smaller districts, is now an essential part of the Austrian Empire.

#### PHASES OF UNITED STATES BANKING.

Compare the banking system of to-day with that established in 1791.  
SHARON, Wis.  
A. E. WINTER.

*Answer.*—The banking law of 1791 established one organization only, the United States Bank, with a stock limited to \$10,000,000. The present system, founded upon a number of different acts passed between 1863 and 1875, pro-



vides for a practically unlimited number of banks, and fixes the inside limit of capital at \$50,000, \$100,000, and \$200,000, according to the population of the city where organized. In the old United States Bank, the Government took \$2,000,000 of stock, and three-fourths of all private and corporate subscriptions were to be paid in United States bonds, the remaining one-fourth to be paid in coin; in the National banks the Government takes no stock, but guarantees each bank's notes of issue, on condition that 111 per cent of these notes is deposited in the United States Treasury in the form of Government bonds, as security. No part of the law of 1791 restricted the issue of the bank's notes, this matter being left to the accepted prudence of the bank's directors. As this prudence is not so fairly calculable a quantity at the present day, the question of security limits each bank's circulation. The circulating notes of the Bank of the United States were made receivable in payment of all dues to the United States; the present law provides that National bank notes "shall be received by the Government in payment of all taxes and other dues, except duties on imports, and are payable for all debts or demands owing by the Government, except interest on the public debt, and in the redemption of the notes themselves." These are the salient points of contrast between the two systems, to which we may add the fact that the law limited the existence of the charter of the United States bank to ten years, to be extended at the pleasure of Congress; while the National banks are made, if their solvency continues, permanent institutions. By no means all of the specifications of these laws are here quoted, as the circumstances under which they were framed were widely different.

#### THE WORLD'S DECISIVE BATTLES.

How many decisive battles of the world were there and what were they?

GRANDVIEW, IOWA.

LYDIA STEPHENS.

*Answer.*—The fifteen decisive battles of the world from the fifth century before Christ to the beginning of the nineteenth century of the present era, as given by the historian Creasy, are as follows:

The battle of Marathon, in which the Persian hosts were defeated by the Greeks under Miltiades, B. C. 490.

The defeat of the Athenians at Syracuse, B. C. 413.

The battle of Arbela, in which the Persians under Darius were defeated by the invading Greeks under Alexander the Great, B. C. 331.

The battle of the Metaurus, in which the Carthaginian forces under Hannibal were overthrown by the Romans, B. C. 207.

Victory of the German tribes under Arminius over the Roman legions under Varus, A. D. 9. (The battle was fought in what is now the province of Lippe, Germany, near the source of the River Ems.)

Battle of Chalons, where Attila, the terrible King of the Huns, was repulsed by the Romans under Aetius, A. D. 451.

Battle of Tours, in which the Saracen Turks

invading Western Europe were utterly overthrown by the Franks under Charles Martel, A. D. 732.

Battle of Hastings, by which William the Conqueror became the ruler of England, Oct. 14, 1066.

Victory of the French under Joan of Arc over the English at Orleans, April 29, 1429.

Defeat of the Spanish Armada, by the English naval force, July 29 and 30, 1588.

Battle of Blenheim, in which the French and Bavarians were defeated by the allied armies of Great Britain and Holland under the Duke of Marlborough, Aug. 2, 1704.

Battle of Pultowa, the Swedish army under Charles XII, defeated by the Russians under Peter the Great, July 8, 1709.

Victory of the American army under General Gates over the British under General Burgoyne at Saratoga, Oct. 17, 1777.

Battle of Valmy, where the allied armies of Prussia and Austria were defeated by the French under Marshal Kellerman, Sept. 20, 1792.

Battle of Waterloo, the allied forces of the British and Prussians defeated the French under Napoleon, the final overthrow of the great commander, June 18, 1815.

These battles are selected as decisive, because of the important consequences that followed them. Few students of history, probably, would agree with Prof. Creasy, in restricting the list as he does. Many other conflicts might be noted, fraught with great importance to the human race and unquestionably "decisive" in their nature; as, for instance, the victory of Sobieski over the Turkish army at Vienna Sept. 12, 1683. Had the Poles and Austrians been defeated there, the Turkish general might readily have fulfilled his threat "to stable his horses in the Church of St. Peter's at Rome," and all Western Europe would no doubt have been devastated by the ruthless and blood-thirsty Ottomans. Of important and decisive battles since that of Waterloo we may mention in our own civil war those of Gettysburg, by which the invasion of the North was checked, and at Chattanooga, Nov. 23 and 25, 1863, by which the power of the Confederates in the Southwest received a deadly blow; in the Franco-Prussian war, the capitulation of the French army at Sedan, Sept. 1, 1870, and in the Russo-Turkish war, the surrender of Osman Pasha at Plevna, Dec. 10, 1877.

#### THE THIRTY-NINTH ILLINOIS INFANTRY.

GUELPH, CAN.

Some old soldiers of the Thirty-ninth Illinois would like a brief account of this regiment.

A. O'HARRA.

*Answer.*—The Thirty-ninth Illinois Volunteers was known as the "Yates Phalanx." It was organized at Chicago soon after the outbreak of the war. The War Department, being at that time fully confident that the war would be over in ninety days, declined to accept the regiment. It kept up its organization, however, and continued to drill, until after the battle of Bull Run, when the authorities at Washington were only too eager to accept it. It was mustered in in August,

1861, and Oct. 11 went to St. Louis, and Oct. 12 started for Williamsport, Md. There the regiment was encamped until Dec. 17, when it was sent over into Virginia and was employed in guarding railroads and scouting. It had its first skirmish with Jackson's troops in January, 1862. In February the regiment was with the advance in opening the Baltimore and Ohio Railroad toward Martinsburg. At the first battle of Winchester, March 22, it was held in reserve. It was employed in skirmishing down the valley through the summer, and went to Suffolk Sept. 1, thence on to Newbern, N. C., where it arrived Jan. 19, 1863. There it embarked with Foster's expedition against Charleston, and from its station upon Folly Island witnessed the bombardment of Fort Sumter. It took part in the capture of Morris Island, in the siege of Charleston, and was the first regiment to enter Fort Wagner. It returned to Hilton Head Dec. 7. Re-enlisted January, 1864, and went home. March 19 it went to the front again. Was in a skirmish at Bermuda Hundred May 14, and at the battle of Drury's Bluff May 16, losing at this last battle 15 killed, 72 wounded, and 52 missing. From May 20 to June 19, in various engagements, the loss was 23 killed, 130 wounded, and 13 missing. At Deep River, Aug. 14-16, the loss was 26 killed, 77 wounded, and 8 missing; at Darbytown road, Oct. 13, 15 were killed, 57 wounded, and 8 missing. The skirmish of Charles City Cross-roads was the last engagement of the year for this regiment. In March, 1865, with 100 new recruits, it joined the advance upon Petersburg. April 2 it took part in the charge upon Fort Gregg, and was the first to plant colors upon the works. The regiment received special mention and thanks for gallantry in this charge, and its color sergeant received a medal of honor from Congress. The regiment was with the army that pursued Lee and witnessed his surrender. It went to Richmond and stayed there until August, then went to Norfolk, where it was mustered out Dec. 5, 1865, and was paid off and discharged at Springfield, Dec. 12.

#### CAPTURE OF FORT PILLOW.

ALAMO, Ind.  
Fort Pillow.  
HAMP SMITH.

*Answer.*—The attack of General Forrest on Fort Pillow was made April 12, 1864. The fort is on the Mississippi River, about 70 miles, by water, above Memphis. Its garrison at the time of the assault consisted of nineteen officers and 539 enlisted men, of whom 262 were colored troops. The troops which had been garrisoning the fort had been drawn away some time previous to accompany General Sherman on his Meridian raid. The pickets of the garrison were driven in by the enemy before sunrise in the morning, and fighting soon became general. A gunboat on the river assisted the garrison by throwing shells into the midst of the attacking party, but without much effect. Several assaults were made by the besiegers, but up to about 2 o'clock in the afternoon no decisive success had been gained. The fort was situated on a high bluff which descended precipitately to the river's edge,

making approach on that side impossible. But in the rear there were ravines or hollows through which the Confederate troops advanced upon the fort. At 2 o'clock the gunboat, having nearly exhausted its supply of ammunition, ceased firing and moved out into the river. General Forrest now sent forward a demand, under a flag of truce, for the unconditional surrender of the fort. Major Bradford, the commanding officer of the fort, did not think a surrender necessary, but asked to be allowed an hour to consult with the other officers on the subject. Before the hour was up, General Forrest sent forward a second flag of truce with word that if surrender was not made within twenty minutes, the fort would be assaulted. To this Major Bradford replied with a refusal to surrender. Immediately the Confederate troops, who had been approaching the fort under cover of brush and fallen trees, through the ravines, while negotiations were going on, made a rush forward, and carried the guns of the fort by assault, raising as they did so the cry of "No quarter!" Little opportunity was allowed for resistance. There seems no doubt that General Forrest was responsible for the indiscriminate slaughter that followed, though it has been claimed that he did not order it. But the Southern troops, maddened by the sight of their former slaves in arms, chivalrously shot down white and black without mercy. Many of the Federal troops threw down their arms and sought to escape by running down the steep bluff below the fort to the river's bank. These were shot at, and many of them killed, and others plunged into the river and were drowned in the effort to swim out to the gunboat. Nearly 300 soldiers were killed in this shocking massacre, which unquestionably forms one of the blackest pages in the history of the war.

#### THE NORTHWESTERN REBELLION.

BLUE EARTH CITY, Minn.  
Give a brief account of the cause and particulars of the late rebellion in the Northwest. ROY BARTLETT.

*Answer.*—The trouble began among the French and Indian half-breeds of the province of Saskatchewan, who were dissatisfied with their treatment by the Dominion government. Early in March, 1885, some 400 of these assembled at Duck Lake, under the leadership of Louis Riel, and formulated their demands, which related mainly to certain changes in the laws concerning ownership of lands. They made no written statement of their grievances, but seized some forty white men, traders and prominent citizens, and held them as hostages until the government should send a commission to investigate their alleged wrongs. The Canadian government appointed a commission for this purpose, but in the meantime sent troops to put down the outbreak. The rebellion spread through the half-breed settlements, and several Indian tribes joined forces with them. An attempt made by a band of militia and civilians to recapture the supplies seized by the rebels at Duck Lake, was defeated with a loss of twelve killed and eleven wounded. There was quite a large force of militia and mounted police in the Saskatchewan country,



but these were so scattered by their efforts to protect all the trading posts that they could not mass at any one place in sufficient force to attack the enemy. The force sent against the rebels was under the command of General Middleton. He brought his soldiers by rail to Fort Qu'Appelle and made his headquarters there. He then (April 5) marched northwest of Humboldt and west to Clark's Crossing, on the south branch of the Saskatchewan. Following the course of this river, he reached Fish Creek, near Batoche, April 24, where he found Riel and his forces intrenched. In the engagement which followed the government forces were worsted, or, rather, finding that they could not force the rebels from their strong intrenchments, they fell back without much fighting. The fighting was renewed May 9 and continued until May 11, when the rebels were driven from their rifle-pits at the point of the bayonet. The village was captured and many prisoners taken. Meanwhile, a detachment of mounted police, under Colonel Otter, had, April 24, relieved Battleford, which had been besieged by hostile Indians under Chief Poundmaker for some weeks, and following up the retreating rebel men worsted them in a severe battle May 3. Riel was captured May 15, near Batoche. His rebel followers now dispersed, but some of the Indians, under Chief Big Bear, still held out. These were defeated in two engagements with the government troops May 28 and June 3, and then retreated toward the mountains. They were pursued by the mounted police, and Big Bear himself was captured July 3. The Indians now made peace without any further attempt at resistance. Louis Riel was tried for treason, was convicted Aug. 1, and was hanged Nov. 18, 1885.

#### SOME ENGLISH TITLES.

Who is the present Duke of York; of Monmouth; of Kent? Or are these branches of the peerage extinct? BLONDELL.

*Answer.*—There are no persons bearing any one of the above mentioned titles. The Duke of York was a title formerly conferred on younger sons of the Kings of England. It was first borne by Edward Plantagenet, fifth son of Edward III. In 1385, who was the founder of the House of York, an important branch of the royal family which became extinct in the male line with the death of Richard III. on Bosworth Field in 1485. This Richard had not borne the title of Duke of York. The last of the true York line to wear that empty honor, was the little Prince Richard, the younger of the two princes murdered by order of their uncle in the Tower in 1483. The title was revived for Henry, the second son of Henry VII., who afterward became King as Henry VIII., and was subsequently borne by the second sons of the Stuarts, being given last of all by the elder Pretender to his younger son, known in history as Cardinal York, the last of the royal family of the Stuarts. After the accession of the House of Hanover, George I. gave this title to his brother Ernest Augustus, Prince-Bishop of Osnabruck, and it was subsequently conferred on Edward Augustus, second son of Frederick, father of

George III., and Frederick, George III.'s second son. The latter prince died in 1827, and the title of Duke of York has not since been in use. The title of Duke of Monmouth was created for James, the natural son of Charles II., and with his death passed out of existence. Kent was the name of an earldom in the early English peerage. It was first held by the Bishop of Bayeux, brother of William I., in 1067. During the two following centuries it was held by two valiant knights of the court, but no one of the first three earls of Kent left any sons to inherit the honor. In 1321 Edward I. gave the title to his youngest son. The sons of the latter both dying childless it passed to a sister's family in 1397, but there also became extinct in 1407. In 1465 it went into the family of Edmund Grey, Lord Ruthven, and there remained for nearly three centuries. The title was changed to duke in 1706. In 1740 the male line of this Grey family died out. The title of Duke of Kent was revived for Edward, fourth son of George III., and father of Queen Victoria. Since his death in 1820 the title has not been used.

#### DESCENT OF QUEEN VICTORIA.

OSKALOOGA, Iowa.  
In what way is Queen Victoria connected by blood with the Conqueror and the Saxon kings? W.

*Answer.*—The line runs thus: Egbert, the first Saxon king of all England, Ethelwulf, Alfred the Great, Edward the Elder, Edmund, Edgar, Ethelred the Unready, Edmund Ironside, Edward (not a king), Margaret, wife of Malcolm, King of Scotland; Matilda, who married Henry I. of England, thus uniting the Saxon and Norman lines; Maud, wife of Geoffrev Plantagenet, Henry II., John, Henry III., Edward I., Edward II, Edward III., Lionel, Duke of Clarence; Philippa, who married Edward Mortimer, Earl of March; Roger Mortimer, Earl of March; Anne Mortimer, who married Richard, Earl of Cambridge; Richard, Duke of York; Edward IV., Elizabeth, who married Henry VII., thus uniting the York and Lancaster branches of the royal house; Margaret Tudor, wife of James IV. of Scotland; James V. of Scotland, Mary Queen of Scots, James VI. of Scotland and I. of England, Elizabeth, wife of Frederick, Elector Palatine; Sophia, wife of Ernest Augustus, Elector of Hanover; George I., George II., Frederick, Prince of Wales, George III., Edward, Duke of Kent; Victoria.

#### BATTLES OF THE FRANCO-PRUSSIAN WAR.

MARTINSBURG, Texas.  
Give the principal battles of the Franco-Prussian War, with the number of men engaged on each side. A. T. MAUPIN, JR.

*Answer.*—The first important engagement in this war was the battle of Worth, Aug. 6, 1870, in which General MacMahon's army, about 54,000, was defeated by the Prussian forces under the Crown Prince, numbering nearly 130,000. On the same day another division of the French army, under General Frossard, numbering 60,000 men, was badly defeated by the army under General Steinmetz with 120,000 men. At the battle of Courcelles, Aug. 14, the Prussian force engaged was about 80,000 men, the French troops numbered 60,000. Aug. 18, the great battle of Gravelotte occurred in which 280,000

Germans under King William, fought against 160,000 Frenchmen under Marshal Bazaine. The French, defeated, took refuge in the city of Metz, which was then besieged by the Germans. Marshal MacMahon, unable to rescue the troops at Metz, concentrated his forces at Sedan. Here, with 140,000 men, he was attacked by the Germans, numbering 250,000, and, after desperate fighting, was forced to surrender his entire army. The Germans now besieged Paris. In October Metz capitulated. The army besieged in Paris numbered about 300,000, the encompassing army of Germany about 800,000. The forces endeavoring to come to the relief of Paris were defeated at Amiens, Nov. 27; at Beaune la Rolande, Nov. 28; Le Mans, Jan. 12, 1871; Belfort, Jan. 15-17, and St. Quentin, Jan. 19, by overpowering numbers. Several desperate sorties were made by the forces in Paris, attended with great losses on both sides. Jan. 28 Paris capitulated. The figures above given are taken mainly from Chambers' Encyclopedia, and are founded on official estimates. Haydn, in his "Dictionary of Dates," says that the entire German force under arms in August, 1870, was 1,120,000 men. It is not probable that the French troops ever aggregated much more than half this number.

#### A DUDE.

What is the origin of the word dude, and what is its signification? W. W.

*Answer.*—The derivation of this word is not known. It has been suggested that it was derived from dodo, the name of an uncouth and now extinct species of bird which inhabited the islands of the Indian Ocean. Others have suggested that it was a corruption of the old English word dudder, meaning a scarecrow. It is not even known with any certainty when the word was first coined, as it was in use in slang some time before it found its way into print. It signifies a dandy or fop, one given to exaggerated nicety in dress, and always implies effeminacy and more or less mental imbecility. He is not a "swell," however, for nothing can be more foreign to the character of a true dude than what is termed "loudness" in attire, that is, anything gaudy or showy. He is rather the "exquisite" or "beau" of the last half of the eighteenth century revived. The principle of the true dude has been well expressed as "nothing too much of anything, not even anything too much of nothing too much."

#### LORD SHAFTESBURY—SIR MOSES MONTEFIORE.

Would like brief sketches of the late Lord Shaftesbury and Sir M. Montefiore. F. A. MOYER.

*Answer.*—Anthony Ashley Cooper, the seventh Earl of Shaftesbury, was born in 1801. In his youth he was styled Lord Ashley. He graduated with high honors at Oxford in 1822, and entered Parliament in 1826. Through his influence and able advocacy the "Ten Hours' Bill" was passed, requiring that children in factories shall not work more than ten hours a day. He became distinguished as a promoter of all benevolent enterprises, and was untiring in his efforts to aid the poor and reclaim the degraded, giving liberally also of his wealth for that purpose. On the death

of his father, in 1851, he succeeded to the earldom. He died Oct. 1, 1885, mourned by thousands whom he had befriended. Sir Moses Montefiore was born Oct. 24, 1784, of Hebrew parents. He became Sheriff of London in 1837, and was knighted the same year. In 1846 he was made a baronet. He amassed great wealth, and was noted for his liberal expenditure of his means in efforts to relieve his oppressed co-religionists in various parts of the world. With this object in view he visited various European countries, and also made several trips to Morocco, Turkey, and Palestine. His last journey for this purpose was made in 1874, when he was 90 years of age. He took almost as great an interest in the condition of any persons, not Jews, who were persecuted on account of their religion, as though they were of his own people. His long life was filled with generous deeds to all. He died July 28, 1885, at the age of 100 years and 9 months, preserving the full vigor of his faculties until the time of his death.

#### CANON FARRAR.

Give sketch of life of Canon Farrar, his writings, and tell where copies of his works may be had. Piqua, Kas.

W. N. ALLEN.

*Answer.*—Frederick William Farrar was born at Bombay, Aug. 7, 1831. He was educated at King William's College in the Isle of Man, at King's College, London, and Trinity College, Cambridge, where he graduated in 1854, and became a teacher in 1856. It 1876 he was made Canon of Westminster, and subsequently became Archdeacon. Among the many works which he has written are several book for boys, some works of philology, and also "Seekers After God" (published 1869); "The Witness of History to Christ" (1871); "The Silence and Voice of God" (1873); "Life of Christ" (1874); "Eternal Hope" (1878); "Life and Work of St. Paul" (1879), and others. These can be procured through any bookseller.

#### THE ONE HUNDREDTH ILLINOIS.

Give a sketch of the One Hundredth Illinois Infantry. GUELPH, Kan.

A. O'HARRA.

*Answer.*—The One Hundredth Illinois Infantry was organized at Joliet, Aug. 28, 1862, mustered in on Aug. 31, and sent to the front Sept. 2. It went to St. Louis, and thence was sent into Kentucky to pursue Bragg. Its first battle was that of Stone River, Dec. 31 and Jan. 1 and 2, at which it lost 2 officers and 32 men in killed and wounded. It went with General Rosecrans to Chattanooga, and was the second regiment to enter the town after Bragg's evacuation. It took part in the battle of Chickamauga, Sept. 19 and 20, and lost 8 officers and 156 men in killed, wounded and missing. It was in Chattanooga when the town was stormed by Bragg, and was in the front of Sheridan's division when it stormed Mission Ridge, having here 5 officers and 32 men killed and wounded. Sept. 27 the regiment went to the relief of Burnside at Knoxville, and spent the winter in East Tennessee. May 3 it started on the march for Atlanta. Between this date and Sept. 1, it was in the following battles: Buzzard's Roost,



Massachusetts, Dallas, Lost Mountain, Pine Mountain, Kenesaw, Peach Tree Creek, and in the campaign lost 118 enlisted men and twelve commissioned officers by death, wounds, or sickness. Aug. 26 it went to Chattanooga and left there Oct. 19, and went in pursuit of Hood. At the battle of Franklin it lost thirty-two in killed and wounded. Was also at the battle of Nashville, and thence followed Hood into Alabama. The following months were spent in skirmishing and scouting. June 12 the regiment was mustered out, and the men were paid off and discharged at Chicago July 1.

#### HISTORY OF POLITICAL PARTIES.

Would like a sketch of the different parties in the history of our country, and reasons for changing.

ADA RICHARDSON.

*Answer.*—The first division of the country into parties was over the question of adopting the Constitution. Part of the people strongly approved of it, while another part as strongly objected to many of its provisions, considering that they gave too much power into the hands of the Federal Government. Those who advocated a strong, centralized government became known as Federalists, and those who opposed it were called Anti-Federalists. It was a triumph for the Federalists that the Constitution was adopted in form as it was drawn up, but the first ten amendments of the Constitution, all adopted during the three years following, were very important concessions to the strength of the Anti-Federal sentiment. Washington was a Federalist, but the true leader of the party was Alexander Hamilton, to whose successful administration of her finances the salvation of the young republic was largely due. The Anti-Federalists were also called Republicans, a name which their leader, Thomas Jefferson, strongly wished them to retain. The second President, John Adams, was elected by the Federalists, but the passage of the alien and sedition laws, for which this party was mainly responsible, excited much popular disfavor, and Adams was defeated for a second term by Thomas Jefferson, which virtually destroyed the power of the Federalist party. James Madison was also elected by the Republicans, and during his administration occurred the war with England, which the Federalists bitterly opposed. The stand taken by the party during the war, and especially the action of its leaders in calling the Hartford convention, wrought the complete ruin of the organization, and it wholly disappeared on the election of James Monroe by the Republicans in 1816. Party lines were completely broken down, and the next sixteen years were known as the "era of good feeling." John Quincy Adams in 1824, and Andrew Jackson in 1828, were elected on personal issues only. President Jackson's acts, however, provoked strong opposition, and under the leadership of Henry Clay and Daniel Webster his opponents formed a new party, which took the name of the Whig party. The upholders of the President called themselves Democrats, and claimed to be the successors of the old Jeffersonian Republicans. The dis-

tinctive principles advocated by the Whigs were a protective tariff and internal improvements by the general government, principles which the Democrats as strenuously opposed. The former party also sternly censured General Jackson's course in abolishing the United States Bank and in using the public offices to reward his adherents. Martin Van Buren was put in office by the Jackson party, but the commercial panic of 1837, for which the administration was held responsible, completely broke down Democratic prestige for the time, and General Harrison was elected by the Whigs in 1840 by an overwhelming majority. The fruits of this victory were held to be lost, however, by the death of President Harrison one month after his inauguration, and the course of his successor, President Tyler, in opposing the Whig leaders in Congress. The great question in securing the victory of the Democratic candidate, James K. Polk, in 1844, was the annexation of Texas, which the Democrats urged and the Whigs opposed. But though many of the Whigs disapproved of the war with Mexico which followed, this did not prevent their leaders from choosing as their candidate the successful commander of the Mexican campaign, General Taylor, whose popularity ensured the party a comparatively easy victory. The slavery question was now continually obtruding itself, and, while both of the dominant parties were trying to avoid its difficulties, it led to the formation of a new party at the North, the Liberty party, or Abolitionists, made up of anti-slavery Whigs, who combined in 1848 with the anti-slavery Democrats under the name of the Free Soil party. This organization, however, did not make much impression upon the elections of the country until it was merged in the Republican party in 1856. Meanwhile the Whig party had been gradually losing its power, in spite of the efforts of its leaders to compromise the growing difficulties between the North and South on the slavery question. In 1852 it put forward General Winfield Scott as its candidate, but not even his splendid military reputation could save it from defeat. The slavery question now overshadowed all other issues, and during the administration of President Pierce, the successful candidate of the Democrats in 1852, the Whig party disappeared, and a new party—the Republican—arose. The main principle of this party was opposition to the extension of slavery in the Territories. It never claimed, even up to the inauguration of President Lincoln, the right to interfere with the institution where it already existed. The party was so far organized in 1856, that it presented a very formidable opposition, but did not succeed in electing its candidate. In 1860, however, it was successful, and the announcement of its victory was the signal for the secession of the Southern States, who recognized that they had now lost their power in the Union. The successful prosecution of the war brought about by this action, and the abolition of slavery by proclamation, secured the possession of political power to the Republican party for twenty-four years. The coming forward of a new generation at the North, to whom

the bitter political struggles previous to the war were a matter of history rather than experience, and whose youth during the exciting period of the war and the reconstruction prevented them from receiving a strong mental bias by the dominant sentiment of that period, was doubtless one of the causes of the Democratic reaccession to power in 1884. There have been several other minor political parties in the history of the country which have had some influence in weakening one or the other of the dominant organizations in local elections, as the American or Know-nothing party, the Constitutional Union, the Anti-Masonic, the Greenback, and the Prohibition parties. None of these, however, have ever materially affected our political history.

#### SEVENTY-FOURTH ILLINOIS INFANTRY.

LEATHERN, Mich.  
Please give a sketch of the Seventy-fourth Illinois Infantry. J. H. GIBSON.

*Answer.*—The Seventy-fourth Regiment of Illinois Volunteers was organized at Camp Fuller, Rockford, Ill.; mustered in Sept. 4, 1862, and Sept. 28 was started for Louisville. It reached there Sept. 30, and the next day moved southward with the army in pursuit of Bragg. At Perryville, Oct. 8, it was one of the reserve regiments. In the battle of Stone River this regiment was on the right of the Union forces, but did not have much active fighting. It the following June it took part in the Chattanooga campaign, but at Chickamauga was only employed in guarding the rear and the supply trains. At Mission Ridge it was actively engaged, and did some gallant fighting. Nov. 28 the regiment left Chattanooga for Knoxville, and remained at this place during the entire winter. In May, 1864, it began the movement toward Atlanta. In the campaign which followed it lost 140 men in killed and wounded. After the fall of Atlanta the regiment returned into Tennessee, and took part in the battles of Franklin and Nashville. June 14, 1865, the regiment was mustered out at Chicago. During its term of service it had lost 183 men in field and hospital, and very many more by discharge for disability through severe exposure.

#### NAMES OF THE STATES.

LENOIRA, Kan.  
Give the meaning of the name of each State and Territory in the Union, and the reasons, if known, why such name was given in each case.

UNIONIST.

*Answer.*—The names of the States were generally given for descriptive reasons, as will be seen from the following list:

Alabama, an Indian word meaning "Here we rest." Said to have been given by some of the early French explorers, on hearing the word used by one of their Indian guides, when a beautiful spot on a river's bank had been selected by them for a camping-place.

Arizona, meaning sand-hills, descriptive of a large section of the Territory.

Arkansas, from Kansas, the name of a tribe of Indians found there, with the French prefix of *arc*, meaning a bended bow.

California, a name given by Cortes in the year 1535 to the peninsula of

Lower California, which he discovered. He took the name from an old Spanish romance, in which there is an imaginary island called California abounding in great treasures of gold. The root of the word is the Spanish *califa*, or *caliph*, meaning a ruler; or, in its primary signification in the Arabic, successor, because the caliphs were the successors of Mohammed.

Colorado, from the Spanish word for red or colored, and refers to the hue of much of the soil in that State.

Connecticut, from the Indian phrase *Quinnikutuk*, which means, upon the long river.

Dakota, an Indian word meaning leagued, or allied. It was the common name of the Confederate Sioux tribe who inhabited the country.

Delaware, named for Lord de la Warr, one of the early Governors of Virginia. On a voyage to the West Indies for his health he was driven by a storm into the mouth of a river. His name was given to the river, from this was applied to the State, and subsequently was also given to a tribe of Indians, part of whom lived in the State.

Florida, so called by the Spaniards. It was named thus by Ponce de Leon because it was first discovered on Easter Sunday, which is, in Spanish, *Pascua Florida*.

Georgia, named by the English settlers in honor of George II.

Idaho, an Indian word.

Illinois, from *Illini*, the name of an Indian tribe, meaning "men." The *ois* was the French suffix, implying plurality.

Indiana, from the word Indian.

Iowa, the French form of an Indian word meaning "the sleepy ones," a name given by the Sioux to the *Pahoja* tribe.

Kansas, the name of a tribe of Indians inhabiting the country. The meaning of this word is doubtful. By some it is said to mean smoky water, by others, good potato.

Kentucky, an Indian word meaning at the head of a river. Given by the aborigines to a limited part of the territory, and applied by the white settlers to the whole.

Louisiana, named by the French colonists in honor of Louis XIV. of France.

Maine, from the name *Mænis*, given to the country by the French voyagers that touched on the coast in the fifteenth century. Probably named by them after the ancient form of the name of the French province *Mayenne*.

Maryland, so named in honor of Henrietta Maria, Queen of Charles I.

Massachusetts, an Indian word meaning "about the great hills," first applied to the region of the Berkshire Hills.

Michigan, an Indian word meaning "a weir for fish," applicable to the number of fresh-water lakes in the State.

Minnesota, an Indian word meaning "cloudy water." Applied by them to the lake country near the headwaters of the *Mississippi*, and adapted for the territory by the white settlers because of its musical sound.

Mississippi, named from the river. The word means in the aboriginal tongue "long river."

Missouri, also named from the large stream of



the same name, which was so called by the Indians because the word means "muddy."

Montana, named for the mountain ranges within its borders.

Nebraska, from an Indian word meaning "shallow river," or "water valley." The State called from the river of this name.

Nevada, from the Spanish name of the mountain range Sierra Nevada. Sierra is "mountain chain;" Nevada, "snow-covered."

New Hampshire, called for the county of Hampshire, in England.

New Jersey, so called because its Governor, Sir George Carteret, was born on the island of Jersey.

New Mexico, formerly a part of Mexican territory, and was allowed to retain the name because so large a part of its original population remained in the Territory after its acquisition by the United States.

New York, after the Duke of York (afterward James II.), to whom the country was granted by his brother, Charles II., after it had been taken from the Dutch.

North Carolina and South Carolina, named in honor of Queen Caroline.

Ohio, an Indian word meaning "beautiful."

Oregon, the name given by Carver, the explorer, to the stream, and signifying "River of the West." Other writers derive the name from the Spanish oregans, meaning "wild marjoram," an herb which grows abundantly on the Pacific coast.

Pennsylvania, Penn's woods [Latin *sylva*, a wood], so called from William Penn, who settled the country in 1681, and because of the wooded condition of the country when first settled.

Rhode Island, so called from a fancied resemblance to the island of Rhodes. Also, and probably more accurately, derived from the name of the island when in possession of the Dutch, Roodt Eyland (red island).

Tennessee, from Indian name of the stream meaning "river of the big bend."

Texas, the generic title of the many tribes of Indians inhabiting this region. Name first mentioned by LaSalle, in 1687.

Utah, probably named from the Ute tribe of Indians.

Vermont, from *verd*, green, and *mont*, mountain.

Washington, in honor of the "father of his country."

Virginia, in honor of Queen Elizabeth, the virgin queen; named by Sir Walter Raleigh.

Wisconsin, from Indian name of the river, meaning "wild, rushing channel."

Wyoming, called from the historic valley of the same name in Pennsylvania.

#### THE COMMON HOUSE-FLY.

Give some account of the habits of the common house-fly, how long does it live, how does it exist through the winter, and is it full-grown when it first appears?

STERLING, ILL.

R. A. GALT.

*Answer.*—The house-fly begins to make its appearance in July, becomes abundant toward the end of August, and lives from that time till killed by cold weather. The eggs are deposited in the

ordure of stables, whose warmth hatches them. The larva hatches from the shell in the form of a small, white worm; from this it passes into the pupa state. The pupa is larger than the larva, and is of a dark brown color. In this state the insect remains from eight to fourteen days, then comes forth the perfect fly. All flies and mosquitoes grow in the larva and pupa state, and after they acquire wings they do not grow any more. The smaller flies we often see with the house-fly are not the young of the same species, but another and a smaller kind. As all flies apparently perish on the advent of cold weather, it is difficult to tell whence come the fresh swarms with each recurring summer season, but it is supposed that a few do live through the winter in sequestered warm spots, and no doubt some lie dormant in the pupa state through the cold months. Thus enough are carried over to begin the work of propagation in the early spring. This work proceeds so rapidly that in a month or two a little one literally becomes a thousand, and July finds us with our usual crop of millions of our familiar pests on hand.

#### CELEBRATION OF CHRISTMAS.

MAUCH CHUNE, Iowa.

Give an account of various modes of celebrating Christmas from the earliest times, and origin of the customs. When did the observance of the day begin?

W. BROWN.

*Answer.*—The earliest mention of the observance by Christians of the birth of Christ was in the second century. It was at first kept by holy services only and in secrecy and fear, for the enemies of the little band of the Nazarene's followers were many and strong. In the third century the Roman Emperor Diocletian had a building wherein some Christians were keeping Christmas set on fire and all its inmates burned. At the close of the third century, however, the conversion of the Emperor Constantine to Christianity freed the infant church from persecution. At that time the exact date of Christ's birth was evidently not known, for different churches kept its anniversary on different days. The Western Church generally kept the 25th of December, but the Eastern Church kept the 6th of January. Pope Julius I., who was Bishop of Rome in 337-352 A. D., had the matter thoroughly investigated by theologians, and in accordance with their opinion, fixed the date as still observed, on Dec. 25. The introduction of merry-making, more or less riotous, into the observances of this day, seems at first to have been the result of an attempted compromise between paganism and Christianity. The Romans held their great feast of the year, the Saturnalia, at the time of the winter solstice. This was a festival of seven days' duration, given up to sports and games in which all the populace took part, to merriment of the wildest character, feasting and drinking. When the Christians came in power at Rome, their first step was to abolish the Saturnalian games, and substitute in their stead the festival of Christmas. As this produced great popular discontent, matters were compromised by permitting the more innocent of the pagan sports at the Christian festival. The

door being thus opened, it was not long before Christmas was actually taken possession of by the Saturnalia, and the customs of the festival were a never-ending source of contention between the priests and the people. In like manner the introduction of Christianity into the countries of Germany and Sweden resulted in a similar compromise between this typical festival and the "Feast of Odin," held by the northern nations in honor of their chief deity at the same time of the year. The Anglo-Saxons who settled England brought the festival from Germany, and in no country was the Christmas merry-making more essentially a part of the popular life during medieval times than in England. It was less at home in Ireland, and in Scotland it never really took root. Many curious customs belonged to this festival in olden times. Among these was the hanging of the mistletoe. This custom had its origin in a legend of Scandinavian mythology. As the English had a tradition handed down from the Druids or priests of the early Britons that this plant was sacred, they were very tenacious of this custom. Another practice of Christmas which has come down to the present day is decking the house with evergreens. This custom may be said to be as old as human nature, and to have had its origin either in the natural desire of man to brighten up the interior of his abode when all nature without was cheerless, or in a superstitious desire to win the favor of the invisible sprites supposed to live in the forests, and make their home among sheltering leaves. The Druids adorned their temples, open to the sky, with green boughs, and the Romans decorated their homes at every festive season with the laurel, the emblem of victory, or the ivy, sacred to Bacchus. In England the holly, bay, rosemary, and laurel were used, also the ivy and mistletoe. Music was always a part of Christmas customs also. In England the Christmas waltz was an important feature in the observances. These were a band of musicians, who during the entire week preceding the festival day went about from house to house in the evening singing Christmas carols. The name is supposed to be from the Scotch word *walsh*, meaning wanderers, or perhaps it was given the singers because they always waited at each house after their performance until some money was given them. Carols were also sung by children at this time, especially in the churches. Another Christmas custom was the burning of the yule log. A large log was dragged from the woods, the day before, with much mirth and clamor, and rolled in upon the hearth of the great open fireplace. Here it was lit with a charred brand that had been preserved from the yule log of the year before. The keeping over of this brand was supposed to insure the house from fire. Masquerading was a favorite part of Christmas sports, which undoubtedly had its origin in the Saturnalia of Rome. A leader of the masquerade was appointed who was known as the "Lord of Misrule." The Scotch called him the "Abbot of Unreason," and the French name for him was the "Pope of Fools." Christmas fare was

always an important consideration of the season. Our Anglo-Saxon forefathers could not understand a day of rejoicing that did not consist mainly in eating and drinking. Stuffed boars' heads, peacocks, geese, capons, pheasants, decked the board—the turkey had no place there till after he was brought from the shores of the New World—also the incomparable mince pie, and the plum pudding, the pride and glory of England—to say nothing of the foaming bowl of punch. The wassail bowl takes its name from the Saxon words *was* hael, meaning "be in health." It was a great bowl of punch in which small baked apples were thrown to enhance its flavor. The mince pie was first placed on record about 1596. It was at first made of mutton. The Puritans condemned it as an ungodly dish, and the Quakers would have none of it. The English Puritans, indeed, abolished Christmas from their calendar. To them it stood as a symbol of all the mummary in religion, the spiritual wickedness in high places that drove them from the church in which they were born. They were so far successful in their war against Christmas that they virtually abolished the day as far as six generations of their descendants were concerned. It is less than a quarter of a century since this festival began to have general observance in this country among the families descended from the Puritans. It was always kept at the South, among Episcopalians, and in communities of Germans and Swedes; and perhaps it owes its general observance now among all classes at the North to the great influx of foreigners into this country during the past twenty-five years. The custom of gift-giving on Christmas came to us, not through the English, but the Germans, who derived it from the Italians and Venetians, with their legend of St. Nicholas. The day of gifts in England until lately was, as it still is in France, the first day of the new year. The Christmas tree is a German institution, and the practice of hanging up stockings on Christmas eve originated in Holland. Santa Claus is simply St. Nicholas in Holland tongue.

#### SHELL MOUNDS IN FLORIDA.

Please tell us something about the shell mounds in Florida? NORWAY, IOWA.  
JASPER BROWN.

*Answer*—These shell mounds are found in various parts of the State. The shells which they contain have, through the action of time, become wholly deprived of organic matter, and to a certain degree calcined, so that they form a kind of conglomerate, which is used extensively for building. It is called coquina. These shell heaps have aroused much interest on the part of geologists. It was at first supposed that they were made by lake deposits, but investigations showed that they were of human construction. There are about forty of these mounds in different parts of the State, varying in size from circular heaps fifteen to twenty feet in diameter and a few inches high to ridges several hundred feet in length, and varying in height from a few inches to 15 feet and over, and all are more or less overgrown with forests of trees. Among the



more important groups of these mounds are those of King Phillip's Town, near the outlet of Lake Harney, which are 450 feet long, from 100 to 150 feet broad, and with an average height of 8 feet; the Black Hammock Mounds on the St. Johns, which form a line, though several times broken, 1,200 feet in length, are 150 to 100 feet broad, and vary in height from 10 feet to 3 or 4 inches; Old Enterprise Mounds, on Lake Monroe, 160 feet long on the water line, in places 15 feet high; and Horse Landing Mounds, on the St. Johns River, 300 feet long by 100 feet in their widest part, and about 8 feet high. In all of these mounds pieces of pottery are found imbedded in the shell conglomerate, also articles made of shell and bone, rude stone implements and many bones of animals, as of deer, terrapin, rabbits, alligators and others, and bones of birds and fishes. This shows conclusively that the mounds were made by man, and it is supposed that they mark the camps or villages of early tribes, of whom no traces now remain save these collections of kitchen debris. These deposits contain the shells of a few species only, and the inland mounds contain only those of fresh-water mollusks. Along the coasts there are similar deposits, though smaller, of oyster shells. The age of these mounds is a much-vexed question. They were found overgrown with herbage and forest, just as they are now, when the first white man set foot on Florida soil. The Indians then inhabiting the country knew nothing of their origin, but had traditions that they were built by tribes that inhabited the land long before the red man came. The fact that the shells have lost all traces of organic matter shows them to be of great age, and so does the fact that the deposit of earth above them is sufficient to give place to the roots of the largest trees. An examination of an old oak which was blown down on one of the mounds showed that it was at least 500 years old, and as a century or two was needed to produce sufficient deposit of earth upon the shell-heaps to permit the growth of the tree, it is probable that the existence of the builders of these mounds could not have been later than the beginning of the Christian era.

#### NAPIER'S BONES.

Please explain the invention known as "Napier's Bones" and describe their use.

LOAMI, III.

CHARLES HERSHMAN.

*Answer.*—What is known as "Napier's Bones" was an invention of John Napier, a renowned mathematician of the sixteenth century, for the mechanical performance of the operations of multiplication and division. The "bones" were narrow strips of bone, wood, ivory, or metal, about eight inches long, and divided into nine compartments by transverse lines, each of these compartments being further divided into two portions by a diagonal line running from the upper right hand to the lower left hand corner. The "bones" were divided into sets, all those of set having the same digit occupying the top compartment, and the several multiples of that digit occupying in order the eight lower compartments; when the multiple consisted of two figures these were placed one on each side of the

diagonal line. There was necessarily a set of bones for each digit. There was also another rod similarly divided into compartments, in which were placed the nine digits; this was called the index rod. Multiplication can be performed very rapidly by the aid of this invention. For instance: If 6,795 is to be multiplied by 97,834, four rods whose top digits were 6, 7, 9, 5 are selected and arranged in the order of the figures in the multiplicand, and the index rod placed alongside them; the several figures of the multiplier are then sought for on the index-rod, the two lines of figures opposite each figure on the index are then added together diagonally, and the five sums thus obtained are arranged as follows:

9	61155
7	47565
8	54360
3	20385
4	27180
<hr/>	
	664782030

the product required.

Division is performed in an analogous manner. As Napier about the same time also invented logarithms, a more practicable method of converting multiplication and division into addition and subtraction, this invention of the "bones" was rather overlooked, and it is now scarcely ever used.

#### WOMAN SUFFRAGE.

SYCAMORE SPRINGS, KAN.

Give a history of the woman suffrage movement in this and other countries, and its progress. What States now give a limited suffrage to women?

C. G. MARLEDGE.

*Answer.*—The political dogma of the eighteenth century, that suffrage is a natural right, led to an early demand for its extension to women. Condorcet, a French political writer, published in 1790 a plea for the citizenship of women. The constitution of the Colony of New Jersey, framed in 1776, permitted all inhabitants of certain qualifications to vote, irrespective of sex. This act was repealed in 1807. The agitation against slavery brought forward the claim of "natural rights" again, and some persons began to assert that justice demanded the extension of the franchise right to women. The first woman's rights convention was held at Seneca Falls, N. Y., July 19, 1848. It based the claims of woman on the Declaration of Independence, and demanded equal rights. The first National woman's rights convention was held at Worcester, Mass., Oct. 23, 1850. Soon after this the people of England also had their attention directed to the subject by the writings of John Stuart Mill and others. In 1866 the American Equal Rights Association presented the first petition for woman suffrage to Congress. In 1868 the New England Woman Suffrage Association was formed, and the first systematic effort began for memorializing legislatures and Congress, obtaining hearings before these bodies, holding conventions, circulating documents, etc. The agitation had by 1870 assumed such dimensions that the Republican convention in Massachusetts, held Oct. 5, 1870, admitted Lucy Stone and Mary A. Livermore as regularly accredited delegates. Since then more than one State convention has in-

dorsed woman suffrage, and several National conventions have resolved that it was "entitled to respectful consideration." The Legislature of the Territory of Wyoming, by an act approved Dec. 10, 1869, granted the right of suffrage to women, and even previous to this date it was exercised by them in Utah. The same right was granted in the Territory of Washington in 1883. Woman suffrage, limited to school elections, has been conferred in several of the States, to wit: Women may vote at school meetings in Kansas, Nebraska, New Hampshire, Vermont, and in the Territory of Dakota; at school elections in Colorado and Minnesota; for members of school committees in Massachusetts, and at school meetings in Michigan and New York if they are tax-payers. Widows and unmarried women may vote in Idaho Territory as to special district taxes if they hold taxable property. In Oregon widows having children and taxable property may vote at school meetings. In Indiana widows or unmarried women not minors, who pay taxes and are listed as parents, guardians, or heads of families, may vote at school meetings. In Kentucky any white widow, having a child of school age, is a qualified school voter; if she has no child, but is a tax-payer, she may vote on the question of taxes. The British Parliament, by an act approved Aug. 2, 1869, granted the municipal franchise to women in England and Wales, and by an act approved in 1870 extended the privilege of voting for school boards to rate-payers, including women; further, June 3, 1881, an act extended the municipal franchise in Scotland to unmarried women and widows. Prior to the passage of these acts women holding property had, by the custom of London and that of some other parts of England, certain rights of suffrage in municipal affairs. In the Isle of Man women have the privilege of voting for the members of the governing assembly.

## LEIGH HUNT.

MARSHALL, Kan.  
Give a sketch of Leigh Hunt, the author. J. D. F.

*Answer.*—James Henry Leigh Hunt was born at Southgate, near London, in 1784. His father was a native of the West Indies, who was educated and married in America, but removed to England at the outbreak of the revolution, because his sentiments were strongly on the side of the Royalists in that contest. Young Leigh left school at the age of 15, and served as clerk in the War Office until his 24th year, when, with a brother, he started a liberal political journal called the *Examiner*. This periodical won a high reputation for its exceptional literary merit, but in 1812 the brothers were arrested for having published a satirical article on the Prince Regent (George IV.) and sentenced to a fine of £500 each and two years' imprisonment. While in prison Leigh Hunt wrote "Rimini," one of his most admired poems; also "The Descent of Liberty" and "The Feast of the Poets." From 1818 to 1822 he edited the *Indicator*, a series of periodical essays, admired for genial humor, easy style, and brilliant fancy. In 1822 he formed an association with Byron and Shelley to edit the *Liberal*, a political and literary journal, and with

this object took up his residence with Byron in Italy. But Shelley was drowned during that year, and Byron and Hunt soon disagreed, so after the issue of four numbers the *Liberal* was discontinued. Hunt returned to England in 1824 and soon after published his "Recollections of Byron," a book which gave great offense to the friends of the latter poet. He was connected, as editor and contributor, with various London journals for a number of years. Among the many productions of his versatile pen were a clever poem called "Captain Sword and Captain Pen" (published in 1835); "Stories from the Italian Poets" and "Men, Women, and Books" (1847), "Imagination and Fancy," and his "Autobiography" (1850). He received a pension of £200 from the government in 1847. He died Aug. 28, 1859. As a poet and as a critic Leigh Hunt takes high rank in literature.

## VOTERS IN CANADA.

WISCON, Minn.  
What are the necessary qualifications for voters in the Dominion of Canada? A. N.

*Answer.*—There are assessment qualifications required for voters by the election laws of nearly every part of Canada. In Ontario and Quebec a vote is given to every male subject who is the owner, occupier, or tenant, of real property of the assessed value of \$300, or of the yearly value of \$30, within the limits of cities or corporate towns; or, of the assessed value of \$200, or yearly value of \$20, if not so situated. In New Brunswick, a vote is given to every male subject of the age of 21 years, assessed in respect of real estate to the amount of \$100, or of personal property, or personal and real, amounting together to \$400, or \$400 annual income. In Nova Scotia the franchise is with all subjects of the age of 21 years, assessed in respect of real estate to the value of \$150, or in respect of personal estate, or of real and personal together, to the value of \$400. Voting is by ballot. Indians not resident with their tribes are allowed to vote under the same qualifications as white men, and by a law passed by the Dominion Parliament in August, 1885, those Indians who are still with their tribes are, with certain property restrictions, allowed to vote for members of the House of Commons, as well as concerning matters of local government.

## ALEXANDRIAN LIBRARY.

BATTLE CREEK, Mich.  
Give an account of the Alexandrian Library and its destruction at the burning of Alexandria. A. HULSCHÉ.

*Answer.*—This remarkable collection of books was the largest ever made before the invention of printing. It was founded at the suggestion of Demetrius Phalereus, a fugitive from Athens, in the reign of Ptolemy Soter. It is said that at the time of Cleopatra there were 700,000 volumes or rolls on its shelves. A large part of this library was contained in the museum, which was burned during the Alexandrine war, when Caesar was in the city, in 47 B. C. Mark Antony made up for this loss by presenting the library taken at the siege of Pergamos to Cleopatra. After this the library continued to increase in size and reputation, and contained treasures



of learning in all known tongues. A large part of it was contained in the temple of Jupiter Serapis, which was burned with all its contents by the Christians under Theodosius the Great about the year 391 A. D. This was the beginning of the destruction of the library, which was completed by the Caliph Omar, when the Arabs took the city in 640 A. D. The story goes that the volumes were used to heat the 4,000 public baths of the city, and that such was their number that they supplied all the fuel required at these places for six months. But this assertion is doubted. It is also said the order was given for this wanton destruction by the Caliph Omar in these words: "If these writings agree with the Koran they are useless, and need not be preserved; if they do not agree with it they are pernicious, and should be destroyed." But a similar speech is also accredited to the Emperor Theodosius, and, probably, it was not actually uttered by either, though it expresses likely enough the sentiments of both.

#### ANNEXATION OF CUBA.

N. R. JUNCTION, Minn.  
Please give an account of the proposals for the annexation of Cuba advanced during the administrations of Adams and Polk, and the action of Congress upon these proposals.  
ANTHONY JOHNSON.

*Answer.*—Ever since the purchase of Florida from Spain in 1821 the United States Government has taken much interest in the island of Cuba. Its contiguity to our coasts, and its position at the entrance to the Gulf of Mexico, give it an importance that has not been overlooked. In 1825, under President John Quincy Adams' administration, some diplomatic correspondence was carried on between the Spanish authorities and Mr. Clay, our Secretary of State. Spain proposed that in return for certain commercial concessions the United States should guarantee to her the perpetual possession of Cuba. This proposition was declined, however, as contrary to the general policy of the United States, though it was averred that should the island ever be in danger of passing into the hands of a strong maritime power, as the British or French, our Government would promptly step in to protect it. President Adams and Mr. Clay cherished the plan of buying Cuba, believing that this measure would greatly strengthen their administration at the South. But on making overtures to this effect to Spain they were totally refused. In 1843, the continued tyrannies of Spain having aroused much discontent on the island, the subject of purchase was again agitated. President Polk authorized the American Minister at Madrid to offer \$100,000,000 for Cuba, but the proposition was rejected in the most peremptory manner. In 1849-51 several expeditions were fitted out on American soil against the Spanish government in Cuba by General Lopez, but in the interest of neutrality the United States Government checked their operations as far as it was able to do so. In 1854 Messrs. Buchanan, Mason, and Soule, United States Ministers at London, Paris, and Madrid, respectively, held a conference at Ostend and drew up a statement which is popularly known as the Ostend manifesto. In this it is

argued that Cuba ought to belong to the United States, and that Spain would do well to sell it. A proposition was also urged in the United Senate in 1858-9 to place \$30,000,000 in the hands of the President with a view to the purchase of the island, but after debate this was withdrawn by its author, Mr. Slidell. The question has not since that time found its way into American politics, though the United States has more than once offered to mediate between the Cubans and the Spanish authorities during the frequent revolutionary outbreaks on the island.

#### THE GAULS.

VENTURE, Cal.

Tell us something about the Gauls.

E. B. THURBTON.

*Answer.*—Gallia was the name given by the Romans to France and Belgium. The Gauls, who were called Galatae by the Greeks and Galli or Celts by the Romans, are supposed to have come originally from Asia. Invading Eastern Europe, they were driven westward, and settled in France and Spain, spreading thence into North Italy, Belgium, and the British Isles. This migration was doubtless made long before the dawn of British history. More than six hundred years before the Christian era, the country of the Gauls was visited by the Phœnicians and the Greeks. They found the people a race of warlike savages, who dressed in the skins of beasts, dyed or tattooed their limbs and bodies, made drinking-cups of the skulls of their enemies killed in battle, and strangled the unfortunate strangers wrecked upon their coast. Their only religion was a worship of trees, mountains, thunder, and all things wild or strange in nature. The Phœnicians and subsequently the Greeks carried on some trade with this wild people, with the result of introducing a few civilized arts among them. The town of Massilia—the present Marseilles—was founded 600 B. C. by Grecian traders. The Gauls having crossed the Alps into Northern Italy first came in conflict with the Romans about 396 B. C. Six years later these barbarians under their general, Brennus, captured and plundered Rome, but were driven out by the Roman leader, Camillus. During the 200 years following there were frequent wars between the Gauls and Romans. Those settled in Northern Italy—the Cis-Alpine Gauls—were subjugated by Rome, about 220 B. C. Caesar subdued Gaul proper, including the Britons, in eight campaigns, between the years 58 and 50 B. C. The loss of the Gauls in this last struggle of heroic courage and untamed valor with discipline and military genius, was probably nearly a million of men. At the time of this conquest the Gauls had a number of fortified towns, they had invented various implements for use in husbandry, and excelled in the arts of working in metals, in embroidery and the manufacture of various kinds of cloth. But they were rude in manner and rough in speech; they practiced polygamy, and worshiped many gods, to whom they offered in sacrifice the captives taken in war. They are described by the Roman writers as a large, fair-skinned and yellow-haired

race, social, turbulent, enthusiastic, imaginative and vain. Because of their noisy and fluent speech, Cicero compared them to town-criers, and Cato remarks with admiration on their tact in turning an argument against their opponents. They wore their hair long and flowing, and delighted in showy garments. Their chiefs wore much jewelry, and huge head-pieces of fur and feathers, and gold and silver belts, from which they hung enormous sabers. They went into battle with all this finery on, but often threw it off in the heat of conflict. They fought fiercely, armed with barbed iron-headed spears, heavy broadswords, and lances. After their subjugation by Cæsar, for more than two centuries the Gauls remained entirely quiet, and the civilization of the country proceeded rapidly under the influence of Roman rule. Many towns were built, new arts introduced, and commerce was stimulated. The national habits and religion retired by decrees to the northwest coast of the country, and at last found their only refuge in the islands beyond it. Christianity was first introduced into Gaul about 160 A. D. by teachers sent out by the Apostles and their successors. During the fourth and fifth centuries the country was wrested from the Romans by the Franks, a German tribe, which gave its name to the country. The French people of to-day are of mixed ancestry, deriving their characteristics from Gauls, Romans and Franks. The Irish are the only people among the several branches from Gallic ancestry who have mixed so slightly with other nationalities as to show markedly, even to the present time, the survival of the physical and mental traits of the Gauls.

#### THE RAILWAY MAIL SERVICE.

PARSONS, Kan.  
Explain the method of carrying the United States mails, how railroads are paid, etc.

R. B. WILLIAMS.

*Answer.*—The Postmaster General is empowered to arrange the railway routes on which the mail is carried, and the companies controlling these routes are paid at rates fixed by law. Every company carrying the mails must agree to convey them with due frequency and speed, and to provide "sufficient and suitable room, fixtures, and furniture in a car or apartment, properly lighted and warmed," for route agents to accompany and distribute the mails. The pay per mile per annum for the railway mail service depends upon the amount of mail carried. The average weight of mails is ascertained by actual weight for thirty successive working days. The Postmaster General appoints all superintendents and agents of the railway mail service, and their salaries are fixed by law.

#### THE JUKE FAMILY.

WARSAW, Ind.  
Give an account of the Juke family.

THOMAS BORD.

*Answer.*—The Jukes were a family living in Northern New York, who became notorious for lawlessness and worthlessness. Several years ago Richard L. Dugdale investigated the history of this family, and the report of his researches was published under the auspices of the New York Prison Association. The neighborhood in

which this family lived was a thoroughly bad one, containing a number of other families with a record nearly, if not quite, as bad as that of the Jukes. Their original ancestors had been squatters in the rocky fastnesses of the hill country, living in hovels, too idle to attempt to earn an honest living. For generations the men had been thieves, and the women utterly depraved in character. Of the Juke family there had been six sisters, five of whom had married in the neighborhood, so that their record and that of their descendants could be traced. Mr. Dugdale traced the progeny of these five sisters through five succeeding generations, thus making the total record of heredity which he was able to follow seven generations, including the parents of the sisters mentioned. The number of descendants he found registered included 540 individuals related by blood to the Jukes, and 169 by marriage or cohabitation, in all 709 persons alive or dead. Out of these 709 descendants of the Juke girls, 180 were paupers, and received relief, in whole or in part, from the town authorities. Of the other 500, it is estimated that 80 were dependent at times on charity, making a total of 260 persons of this family who lived an aggregate of 1,150 years on public charity. But as some town records had been imperfectly kept and others were inaccessible to investigation, this record is not complete. Estimating for these missing records on the basis of those ascertained, there is an aggregate of 2,300 years of public charity enjoyed by the Juke blood alone. Allowing 150 years of alms-house life at \$100 a year, we have a total of \$15,000, and estimating outdoor relief for 2,150 years at \$15 a year we have \$32,250 more, or an aggregate expended from the public fund of \$47,250 during seventy-five years for this family of Jukes. Taking into account deprivations on private property also, Mr. Dugdale estimated that this family in less than a century had cost their community a total of \$1,308,000. Mr. Dugdale found that a small per cent of the Jukes, especially when they had moved away from their ancestral neighborhood, ultimately became honest, hard-working citizens. The argument of his report, therefore, was that it is the duty of the community to prevent, by every means of education within its reach, the perpetuation of vice and idleness.

#### THE EMANCIPATION PROCLAMATION—ASTEROIDS.

DODDSTOWN, Ark.

1. Did not the Emancipation Proclamation except certain parishes in Louisiana and some counties in another State? What were these, and why excepted? When were the slaves therein freed? 2. How many planets are now known between Mars and Jupiter, and when was the last discovery made?

N. W. FLYMATH.

*Answer.*—1. The emancipation proclamation excepted thirteen parishes in the State of Louisiana. These were the parishes of St. Bernard, Plaquemine, Jefferson, St. John, St. Charles, St. James, Ascension, Assumption, Terre Bonne, Lafourche, St. Mary, St. Martin, and Orleans, including the city of New Orleans. It also excepted in Virginia the counties of Berkeley, Accomac, Northampton, Elizabeth City, York, Princess Ann, and Norfolk, including the cities of Norfolk and Portsmouth, and the forty-eight counties which



had been separated as West Virginia. These portions of territory were excepted because they were at the time under the authority of the United States Government, and the emancipation, as a war measure, could only be directed against the districts still regarded as in rebellion against the United authorities. The slaves held in this excepted territory were subsequently made freemen by the action of the thirteenth amendment. 2. The number of small planets that have been discovered in the zone of asteroids now reaches 252. The last on the list was discovered by Dr. Perrotin, of the Toulon Observatory, Oct. 28, 1885.

#### HIGHEST LAND IN IOWA AND DAKOTA.

BRADGATE, Iowa.

Give the highest points of land in Iowa and Dakota.

JIM.

*Answer.*—The highest point of land in Iowa is at Spirit Lake, in the northwestern part of the State, 1,650 feet above sea level. The highest point in Dakota is the peak called Crook's Monument or Tower, which is 7,600 feet above the sea. This is in the northwestern part of the Black Hills. This is not a mountain, though it is so high, but simply the inner edge of the great Northern Plateau. Crook's Monument or Tower is a huge castellated rock, which rises like a tower above the level of this highland.

#### THE SIXTY-SIXTH ILLINOIS INFANTRY.

LAWRENCE, Mich.

Give a sketch of the Sixty-sixth Illinois Infantry.

F. E. P.

*Answer.*—The Sixty-sixth Regiment of Illinois Volunteers was organized at Benton Barracks, St. Louis, in the fall of 1861, under the special patronage of Gen. Fremont. It was originally known as "Birge's Sharpshooters," and was composed of three companies from Illinois, two from Ohio, one from Michigan, and three from squads of recruits from various Western States. It was Gen. Fremont's scheme to make it a complete sharpshooting regiment, and fit it out with the dress and accouterments of the hunters of the West. But this plan was nipped in the bud by Gen. Halleck, and, when Fremont was superseded, the regiment was hurried into the field with but nine companies, and with its organization quite incomplete. The arm carried by the regiment was the American deer and target rifle. The accouterments consisted of a bullet-pouch covered with bearskin, and a powder-horn or flask. In the bullet-pouch was a compartment in which were carried screw-drivers, bullet-molds, and patch-cutter—singular implements for a soldier, but "Birge's Boys" molded their own bullets, greased them, and patched them with as much care as an old hunter would, and used them quite as effectively. The only feature of the hunter's dress planned for the regiment by Fremont which Halleck sanctioned was the hat, a gray, sugar-loaf-shaped affair, with three squirrel tails running from both back and front, and meeting at the apex of the crown in a knot. The regiment left the barracks for the scene of active operations Dec. 12, 1861, and Dec. 28 part of its men took part in the battle at Mount Zion Church, Mo. Feb. 4, 1862, the regiment started

for Fort Henry. It arrived too late to take any part in the capture of that place, but did good service in the fight before Fort Donelson. March 5 the regiment embarked for Pittsburg Landing, and took part in the battle of Shiloh, but only as a skirmishing regiment. It spent most of the summer in skirmishing work. In June Colonel Birge was mustered out and Colonel Burke took command of the regiment, and in November following the regiment, which had previously belonged to Missouri, was transferred to Illinois by order of the Secretary of War. The name "Birge's Sharpshooters" was discarded, and thenceforward the regiment was known as the Sixty-sixth Illinois Volunteers, or "Western Sharpshooters." The regiment saw no active service aside from some slight skirmishing during 1863. In December of that year 470 of its soldiers re-enlisted, and in January, 1864, were sent North to be furloughed. Re-organized as a veteran regiment, the Sixty-sixth returned to the seat of war, and May 9 had the honor to open the campaign for the Army of the Tennessee at Snake Creek Gap. From this time, through the campaign, the regiment was always in the front, taking part in the battles at Rome, Dallas, Kenesaw, Atlanta, Jonesboro, Nickojack Creek and others. During the campaign the old deer rifles were discarded and their places filled with the Springfield musket, and Henry repeating rifle. The regiment marched with Sherman to the sea, then went to Washington to take part in the grand review, and returning to Louisville, Ky., was mustered out there in June, 1865. This regiment lost 201 men by death during its time of service, and nearly thrice that number in wounded and missing.

#### FREE SCHOOLS IN ILLINOIS.

MANCHESTER, Iowa.

What year were free schools established in Illinois?

B. MATTICE.

*Answer.*—The Illinois General Assembly of 1821 passed an act which authorized the town of Upper Alton to levy a tax, not exceeding seventy-five cents, on each town lot to be applied to the support of teachers, erection of school buildings or repairs. Under this act Alton established the first actually free school in the State. Up to that time no school system had been adopted, and no provision made for the support of free schools, except the small amount realized by leasing the school lands. In 1825, the General Assembly passed the first act establishing free schools in the State. In 1829, the Assembly passed an act which provided for the sale of school and seminary lands, which laid the foundation for the present township fund system.

#### AN INCIDENT OF THE WAR OF 1812.

FORT WAYNE, Ind.

Give the circumstances of the death of Captain William McCullough, who was killed by the Indians under Tecumseh in the war of 1812.

J. M.

*Answer.*—In the summer of 1812, Captain Brush was sent with supplies raised by the Governor of Ohio, and 150 militia from that State, to the relief of the American army near Detroit. Aug. 4 he reached the troops stationed on the River Raisin, and there Major Van Horne with 200 men joined him as additional protection in

conveying the supplies. It was believed that the Indians had been informed of the advance of this party of relief and therefore it proceeded very cautiously. The night of Aug. 4 the men slept on their arms, and the next morning resumed their march. Captain William McCullough, with four other mounted officers, preceded the detachment, to prevent, if possible, a surprise from an Indian ambuscade. These spies, getting some distance in advance of the main body of troops, lost their way, and attempting to regain it by riding around a cornfield, they were fired upon by Indians concealed in the standing corn. McCullough fell from his horse severely wounded, and before his comrades could reach the spot where he fell, the Indians, rushing out from their covert, had scalped him. The detachment, coming up, moved forward slowly, taking the body of McCullough with them, endeavoring to make a still more careful outlook for Indians. Near Brownstown, however, they were again ambushed by a large force of savages under Tecumseh, and, having twenty of their number killed and wounded, were forced to retreat to the fort on the River Raisin.

#### GEORGE HENRY LEWES.

QUITMAN, Mo.  
Please give a sketch of the life and works of George Lewes, the husband of "George Eliot." O. K. HUFF.

*Answer.*—George Henry Lewes was born in London April 18, 1807. He studied medicine, but soon exchanged that profession for literature, in which his labors have been very abundant and diversified. He contributed many literary, historical, scientific, and philosophical essays to the English magazines and reviews. His learning was remarkable, not only in the wide range of subjects which it included, but also in the thoroughness with which the most of these subjects had been mastered. As a philosophical thinker he ranked among the first of his time. Among the principal works issued in book form may be mentioned "Biographical History of Philosophy" (1845); "Comte's Philosophy of the Sciences" (1853); "The Life and Works of Goethe" (1855); "The Physiology of Common Life" (1860); "Problems of Life and Mind," two volumes (1873-'75); "The Physical Basis of Mind" (1877). He was also the author of several novels and dramas. From 1849 to 1854 he was the editor of the *Leader*, and in 1865-'66 was the first editor of the *Fortnightly Review*. He died Nov. 30, 1878.

#### FOOLSCAP PAPER.

LOCUST GROVE, Ill.  
How came the name foolscap to be applied to a certain kind of paper? T. A. KILLION.

*Answer.*—Paper of this kind and size had, from the thirteenth to the seventeenth century, a water-mark representing a fool's head, ornamented with a cap and bells, such as the jesters of the old nobility used to wear. It has been conjectured that this design was suggested by a corruption of the Italian name for this size of paper—*folio-capo*, meaning folio-sized sheet. But this is not probable, as such an error would not have occurred except among those speaking the English language, and this paper was not made in

England until nearly the close of the sixteenth century. Up to that time it was manufactured in France, Italy, and the Netherlands only. The use of the foolscap water-mark was given up about the beginning of the eighteenth century.

#### ANDRE'S MONUMENT.

SHEFFIELD, IOWA.  
Tell something about Andre's monument and what Cyrus W. Field had to do with it. Where are the remains of Andre now buried? R. A.

*Answer.*—Major John Andre was buried at the foot of the gallows on which he was executed. Forty-one years later, that is, in 1821, the remains were taken up and conveyed to England, and interred beneath the handsome monument which had been erected to his memory in Westminster Abbey by King George III. shortly after the young soldier's death. The spot on which Andre had been executed was lost sight of for some time, until in 1847 a New York merchant commemorated it by placing over it a heavy boulder, on which was inscribed, "Andre, Executed Oct. 2, 1780." This boulder was literally chipped to pieces by relic-hunters, and in a few years there was nothing left of it. Its site was again forgotten until Dean Stanley, when in this country in 1878, visited it in company with Cyrus W. Field. Mr. Field, about a year and a half later, erected a plain granite monument, partly to mark the historic spot, and partly to testify to the fact that Americans could honor brave, soldierly qualities even in an enemy. But that all Americans were not generous enough to hold this sentiment was soon proved. One night in the spring of 1881 the monument was hacked and mutilated by some unknown persons, who gave utterance further to their indignation in a poem which was left affixed to the broken stone. The monument was subsequently repaired, but on the night of Nov. 3, 1885, it was blown up with dynamite. It was completely shattered this time beyond the possibility of repair, and it is now doubtful whether the erection of another monument on this site will ever be attempted.

#### NO ONE-DAY PRESIDENT.

ELKHART, Ind.  
Who was President of the United States for one day only, and when? ADAM YODER.

*Answer.*—The recent death of David R. Atchison, of Missouri, has started this conundrum. The assertion is made that he enjoyed the distinction of being President of the United States for a single day. This assertion, however, is a mistaken one. It is true, that when Polk and Dallas retired in 1849, David R. Atchison was President pro tem of the Senate, having been elected to act in that capacity in temporary absences of Vice President Dallas from the Senate Chamber. March 4, 1849, came on Sunday. The terms of the outgoing President and Vice President expired legally at 12 m. on that day. From 12 m. Sunday until about the same hour Monday, when President Taylor took his oath of office, it may be said that the Government had no executive. But its legal President was not a Senator whom chance had made the late Vice President's occasional deputy, but the President-elect. Had there been any imperative need



of an executive officer on that day, the President-elect, and not the pro temp. presiding officer of the Senate, would have been called upon to take the oath of office and meet the emergency. David R. Atchison was never President of the United States for one day, not only because he performed no executive act and did not take the oath of President of the United States, but because, under the circumstances, he could not have lawfully taken such oath. Had both Taylor and Fillmore died on that Sunday, Atchison would have become the lawful acting President after taking the oath of office. But as no such contingency occurred, it is mere nonsense to say that he was President at all. The origin of the frequent misapprehension on this subject is simple. The presiding officer of the Senate is elected to hold his position until his successor is chosen. The President is by the Constitution elected for four years only, and his term expires at the moment when these four years are at an end. The presiding officer of the Senate was by law the legitimate successor to the Presidential duties in the case of an interregnum. All this is true, but the fact should not be overlooked that no interregnum occurred. For each President is chosen to immediately succeed his predecessor in office, and virtually becomes the executive the instant that his predecessor's term closes. At that instant, be he near at hand or ten thousand miles distant, whatever the hour of the day or night, he comes into the full lawful possession of official power by taking the oath of office. It seems plain that during the moments which may intervene between the close of one Presidential term and the official opening of the next there is no true interregnum, and no one can be lawfully regarded as the President during that time other than the individual who through the decreed method of popular election has been chosen Chief Magistrate of the people.

#### FIFTY-FIRST ILLINOIS INFANTRY.

ALRO, W. T.  
Would like a sketch of the Fifty-first Illinois Infantry, with list of the regimental officers.

HENRY C. PARKER.

**Answer.**—The Fifty-first Regiment of Illinois volunteers was organized at Camp Douglas, Chicago, and mustered in Dec. 24, 1861. Its first officers were: Colonel, G. W. Cummings; Lieutenant Colonel, L. P. Bradley; Major, S. B. Raymond; Adjutant, C. W. Davis; Quartermaster, H. Howland. It left Chicago Feb. 14, 1862, and went to Cairo, where it was engaged in guarding the prisoners from Fort Donelson. Two weeks later it crossed over into Kentucky and thence into Missouri, and in April took part in the capture of New Madrid. It was ordered to Hamburg Landing, April 27, and took part in the battle of Farmington and movements upon Corinth. During the summer it was employed in guard duty at various points, and in September went to Nashville to join Buell in the pursuit of Bragg. It was in the thickest of the fight at Stone River. In Colonel Robert's brigade, Jan. 6, 1863, the regiment went into camp near Murfreesboro and remained there until March. It took part in the pursuit of Van Dorn and, later, in the Tullahoma campaign, which resulted in driving Bragg out

of Tennessee. Sept. 2, it crossed the Tennessee and marched to take part in the Chickamauga campaign. At the battle of Chickamauga the regiment did gallant service, and lost heavily. At the battles of Mission Ridge and Lookout Mountain it was in the reserve. Oct. 28 it marched to the relief of Burnside at Knoxville, reaching there Dec. 9. Jan. 26 the regiment went to Chattanooga to re-enlist in the veteran service, and the men went home on furlough. March 28 the regiment again started from Chicago for the seat of war. It was in all the battles of the Atlanta campaign. It then went to the relief of Thomas, and fought gallantly at the battles of Franklin and Nashville. It followed Hood till pursuit was ordered abandoned, and was then assigned to outpost duty at Decatur, Ala., remaining there till March 13, 1865. It then went to Nashville, where the non-veterans were mustered out. June 15 the veterans started for New Orleans, and thence were sent on to Placido, Tex. Sept. 25, 1865, they were mustered out at Camp Irwin, and Oct. 15 were paid off and discharged at Springfield Ill. This regiment's record of deaths in battle and hospital was 205.

#### WATER AND FIRE.

DUNCAN D. T.  
Why does water put out fire? All know it does, but not why it does it.  
LIEBIE MOO.

**Answer.**—Fire can always be extinguished either by reducing the temperature of the combustible matter to a point below that at which flame becomes possible, or by shutting off all air from the flame, as combustion is not possible except with the help of the oxygen which atmospheric air contains. The application of water to any burning substance induces both these conditions opposed to combustion. The water on coming in contact with the heated substance is instantly vaporized, that is, converted into steam. This act of vaporization takes away the heat of the burning matter, until it is reduced to a point where flame is no longer possible. At the same time the volume of steam formed shuts off the surrounding atmosphere from the fire, and hastens the reduction of temperature. Thus, the fire is stifled and cooled until there is nothing left of it and it is, as we say, out.

#### BLONDIN AT NIAGARA.

APLETON, Mo.  
Give an account of Blondin's rope-walking at Niagara.  
MARY A. JENKINS.

**Answer.**—M. Blondin made his first appearance at Niagara Falls in 1858. After several applications he finally secured permission to place his rope over the chasm just below the railway suspension bridge. Mr. George W. Holley, in his "History of Niagara," gives the following description of this cable: "It was a well and evenly twisted rope, about two inches in diameter, and after stretching it as taut as it could be drawn it hung in a moderate catenary curve. Commencing at the shore ends he secured stays of rope to the large one, placing them about eight feet apart. These were made fast to the shore in such a manner as to make all the stays on one side of the main rope parallel to each other from the center outward to the ends. They were made tight somewhat in the manner that tent-cords

are tightened, and when the structure was completed it looked like a gigantic representation of two opposite polygonal sections of the web of the geometric spider spread out, as near as might be horizontally." On this cable M. Blondin exhibited his performances each alternate Saturday. There was an inclosure on the shore at each end for spectators, and all who entered the inclosure or viewed the ascensions from the bridge, paid a certain fee for the privilege, and these audiences were usually quite large. The performer exhibited a variety of feats, balancing on the rope, hanging from it by his hands and feet, etc. He also carried a man across on his back, trundled over a loaded wheelbarrow, and walked over in a sack. He made a special ascension in 1860 in honor of the Prince of Wales, and performed some of his most difficult feats. The prince was highly pleased, and complimented the performer warmly on his courage and nerve. M. Blondin performed at Niagara three years successfully, and then left for other scenes.

#### GOVERNOR M. WEARE.

Give sketch of Governor M. Weare, of New Hampshire.

MADISON, Wis.  
P. W. BROWN.

*Answer.*—Meshech Weare was born at Hampton, N. H., June 16, 1713. He graduated at Harvard in 1735, studied and practiced law, and sat several years in the State Assembly. He was Speaker of that body in 1752, was Commissioner to the Colonial Congress at Albany in 1754; became a Justice of the Supreme Court and Chief Justice in 1767; was Councillor from Rockingham County and Chairman of the Committee of Safety in 1775; was chosen President of the State in 1776, and annually re-elected during the entire war. He rendered great services toward the defense of the northern colonies during Burgoyne's invasion, raising and equipping the forces sent to the frontier under General Stark. He was again chosen President under the new constitution of 1784. He died Jan. 14, 1786.

#### FIRE-BRICK—HOW MADE.

Can Our Curiosity Shop give a formula for making fire-brick?

WESTFIELD, N. Y.  
G. H. B.

*Answer.*—Mix well together with water one bushel of small coal, two of sand, and half a bushel of common clay. Form into the shape desired and set it aside to harden.

#### SUMATRA.

Give a description of the Island of Sumatra, its area, population, and products.

RIDGEWAY, Wis.  
H. K.

*Answer.*—Sumatra is an island of the Indian Archipelago, lying directly under the equator. It has an area of 160,000 square miles, and a population of nearly 4,000,000 inhabitants. Nearly all of the island is either directly or indirectly under the rule of Holland. The island is quite mountainous, and has over twenty volcanoes. The valleys between the mountains are fertile when cleared, but are mostly covered with dense jungle and forests. The climate of the island is very hot. On the coast it is generally healthy, but inland miasmatic fevers prevail. Most of the population is confined to villages near the coast, and a large part of the interior is comparatively unexplored, and still abounds in wild animals,

elephants, tigers, leopards, monkeys, etc. All tropical fruits abound, and medicinal woods; and valuable minerals are known to exist in large quantities in the mountains, but the barbarous inhabitants make but little effort to cultivate their natural resources. The natives belong to several different Malay tribes, though all profess Mohammedanism. The principal exports are pepper, coffee, rice, cotton, betel-nut, camphor, benzoin, with wood for medicinal and dyeing purposes, and other natural products of the soil. The trade of the island is carried on with the adjacent islands and European vessels. It probably amounts to about \$8,000,000 yearly.

#### THE BRITISH CIVIL SERVICE.

CANTON, D. T.  
Give a brief statement of the manner of appointing civil officers under the British government. What effect, if any, does a change of parties have upon the tenure of civil officers, including postmasters?

C. B. KENNEDY.

*Answer.*—The civil service in Great Britain includes some fifty or more departments. The heads of the most important of these departments constitute the Cabinet. The heads of most of the departments are political offices, changing with the ministry. A few of them, such as the commissioners of customs and of inland revenue, are permanent officials. Excluding these, and also the judicial offices, and a certain list of positions in which special knowledge is required, the civil service is open to the public generally, by a system of competitive examinations. There is a civil-service commission, composed of three commissioners, a director of examinations, a secretary, and three assistant examiners. The extent and nature of the subjects on which candidates are to be examined are settled by the commissioners, after consultation with the heads of the various departments. The details of appointments under the commission are about the same as in this country. Our plan of competitive examinations being modeled on that already in use in Great Britain. Upon a change of the party in power the heads of most of the departments resign, and their places are filled by appointment of the Crown. These officials are privileged to appoint their own private secretaries and a few other assistants whose duties bring them into especial and confidential contact with their superiors, and these officers also resign when their heads of departments retire. With these exceptions, a change of party administration in Great Britain has no effect whatever on the tenure of office in the civil service. As for the postmasters, they are not even remotely affected, for the Postmaster General, who is a member of the Cabinet, is the only official connected with the department who leaves his office on the change of party government.

#### EXPENSIVE AND PRECIOUS METALS.

ANAMORA, Iowa.  
What is the value of gold per avoirdupois pound? Are there any precious metals worth \$1,000 a pound?

R. LINTON.

*Answer.*—Refined gold, without any alloy, is worth \$257.60 a pound avoirdupois. There are nineteen metals known which are valued at over \$1,000 a pound, because of their extreme rarity. The most of these, rare and costly as they are



are not classed with the precious metals, for two reasons: 1. Because they are never found in a native or uncombined state, and easily revert to their earthy condition; and, 2, because they can not be readily worked. The precious metals do not rust or waste away by exposure to the air, and do not oxidize in open fires. The "precious metals group" is usually understood to include gold, silver, platinum, palladium, iridium, rhodium, osmium, and perhaps one or two others. Following is the list of the nineteen metals valued at over \$1,000 per avoirdupois pound, with their value: Iridium, which is found native as an alloy with osmium, \$1,090; osmium, a brittle, gray-colored metal, \$1,300; palladium, a metal found in very small grains, of a steel-gray color, \$1,400; barium, the metallic base of baryta, \$1,800; niobium, (also called columbium), a very rare metal of a steel-gray color, \$2,300; rhodium, a white metal, extremely hard and brittle, and requiring the strongest heat that can be produced by a wind furnace for its fusion, \$2,200; ruthenium, of a grey color, hard and brittle, and only found combined with platinum ore, \$2,400; didymium, a metal found associated with cerium, \$3,200; cerium, a grayish white metal, of high specific gravity, \$3,400; erbium, a metal found combined with yttrium, \$3,400; yttrium, of a greyish-black color, with metallic luster, \$4,080; terbium, only found combined with the mineral gadolinite, in Sweden, \$4,080; strontium, a malleable metal of a yellowish color, \$4,200; calcium, the metallic base of lime, only separable by the aid of the electric current, \$4,500; glucinum, a metal obtained in the form of a grey-black powder, \$4,500; lithium, an alkaline metal, the lightest metal known, \$7,000; zirconium, a metal only found in combination with the minerals zircon and hyacinth, separates in a black powder, \$7,200; rubidium, an alkaline metal, so called for exhibiting dark red lines in the spectrum analysis, \$9,070; vanadium, a white metal, very rare and beautiful, \$10,000.

#### FORTY-SIXTH ILLINOIS INFANTRY.

BRIDGE, Kan.

Would like a brief history of the Forty-sixth Regiment of Illinois Infantry; also the officers of Company H of that regiment.

C. A. KINGMAN.

*Answer.*—The Forty-sixth Regiment of Illinois Volunteers was raised as follows: Companies A, B, C, G, and K, in Stephenson County; Company F, Richland County; Companies D, E, H, and I, in Lee, Ozle, and Whiteside Counties. It was organized at Camp Butler and mustered into the service Dec. 28, 1861, Colonel John A. Davis commanding. The officers of Company H were Captain John Stevens, First Lieutenant John A. Hughes, and Second Lieutenant Fred W. Pike. Feb. 11, 1862, the regiment left Springfield for Fort Donelson, and arrived in time to take part in the closing struggle for the capture of that important point. It was sent on to Pittsburg Landing immediately after the surrender and took part in the battle of Shiloh, where Colonel Davis had two horses shot under him and was himself badly wounded. It took part in the movement against Corinth, and July 21 went into camp at Mem-

phis. Oct. 25 it took part in the battle of Metamora, and there Colonel Davis was again severely wounded, so that he died in camp five days later. The regiment took part in the movement against Vicksburg in 1862, and in the following spring joined Grant's army on its way down the river, and took part in the siege of Vicksburg until the surrender. It was also present at the siege and capture of Jackson; Aug. 11 it was sent to Natchez, Miss., where it remained until Nov. 10, then retiring to Vicksburg. Jan. 4, 1864, the regiment was mustered into the veteran service, and went home for veteran furlough. The ranks of the regiment were filled with new recruits, and early in March it returned to Vicksburg, 987 strong. In May it took part in the Yazoo City expedition, and in July in the expedition against Jackson, Miss. July 29 it embarked for Morganza, La., where it remained most of the time until October. It then returned to Memphis, in January embarked for Louisiana again, and Feb. 8 and 9 went into camp at Dauphin Island, Ala. During the investment of Spanish Fort the Forty-sixth guarded the rear. It was present at the capture of Fort Blakely, and also of Mobile, and May 27 went to New Orleans, and thence soon after to Shreveport. It was stationed there and at Grand Ecore till Dec. 27, when it returned to Baton Rouge, and thence embarked for Camp Butler, Illinois. It received its final discharge at the last-named place Feb. 1, 1866, having been in service nearly four years and a half, and lost 311 men by wounds and disease.

#### HOW POSTAGE STAMPS ARE MADE.

PORTAGE, Wis.

Give an account of how postage stamps are made at the Government printing office.

A. M. PECK.

*Answer.*—The design of the stamp is engraved on steel, and, in the printing, plates are used on which 200 stamps have been engraved. Two men are kept busy at work covering these with colored inks and passing them to a man and a girl who are equally busy printing them with large rolling hand presses. Three of these little squads are employed all the time. After the small sheets of paper containing 200 printed stamps have dried enough they are sent into another room and gummed. The gum used for this purpose is a peculiar composition, made of the powder of dried potatoes and other vegetables, mixed with water. After having been again dried, this time on little racks fanned by steam power for about an hour, they are put between sheets of pasteboard and pressed in hydraulic presses capable of applying a weight of 2,000 tons. The next thing is to cut the sheets in two; each sheet, of course, when cut, containing 100 stamps. This is done by a girl, with a large pair of shears, cutting by hand being preferred to that done by machinery, which would destroy too many stamps. They are then passed to another squad of workers, who perforate the paper between the stamps. Next, they are pressed once more, and then packed and labeled and stowed away to be sent out to the various offices when ordered. If a single stamp is torn or in any way mutilated, the whole sheet of 100 stamps is burned. Not

less than 500,000 are said to be burned every week from this cause. The greatest care is taken in counting the sheets of stamps to guard against pilfering by the employees, and it is said that during the past twenty years not a single sheet has been lost in this way. During the process of manufacturing the sheets are counted eleven times.

#### GRAND ARMY OF THE REPUBLIC.

FREEMONT, Minn.

Give a history of the Grand Army of the Republic from its first organization, telling who its commanders have been and where encampments have been held.

C. SCOVILLE.

*Answer.*—The order of the Grand Army of the Republic was organized in the State of Illinois early in the year 1866. To Dr. B. F. Stephenson, of Springfield, Ill., belongs the honor of suggesting the formation of this union of veteran soldiers, and of launching the organization into existence. The object of the combination was to afford assistance to disabled and unemployed soldiers. Dr. Stephenson had been a surgeon in a volunteer regiment during the war, and was firmly convinced that an organization of the returned volunteers, for mutual benefit, was imperatively needed. A ritual was drafted under his supervision, and the first post of the new order was formed at Decatur, Ill. Other posts were soon mustered throughout Illinois and contiguous States, and the first department (State) convention was held at Springfield, Ill., July 12, 1866. General John M. Palmer was there elected Department Commander. Oct. 31, 1866, Dr. Stephenson, as Provisional Commander-in-chief, sent out an order to all the posts then formed, calling for the first National convention of the Grand Army of the Republic. This was held in Indianapolis, Ind., on Nov. 20 following, and representatives were present from the States of Illinois, Missouri, Kansas, Wisconsin, New York, Pennsylvania, Ohio, Iowa, Kentucky, Indiana, and the District of Columbia. General S. A. Hurlbut was elected as Commander-in-chief. During the year 1867 the order spread rapidly. The various States completed their work of department organization, and posts were formed in all the large towns and in many counties. The second National encampment, meeting at Philadelphia, Pa., Jan. 15, 1868, found the order in a most promising condition. In 1868, the first observance of May 30 as a memorial day by the Grand Army was ordered. May 11, 1870, this date was fixed upon for annual observance by an article adopted as a part of the rules and regulations of the order. Unfortunately, during the warmly contested political campaign of 1868, the idea that the army was intended as a political organization gained currency, with the result of injuring the order greatly. A heavy decrease of membership followed, causing almost a total disruption of the order in the West. In May, 1869, a change in the ritual was made, providing for three grades of membership, but this met with little favor, and in 1871 all sections providing for degrees or ranks among members were stricken from the rules of the order. At the same time a rule was adopted prohibiting the use of the organization for any

partisan purpose whatever, a principle which has ever since been strictly adhered to. Following is the record of the National encampments of the Grand Army of the Republic held thus far, with the names of the Commanders-in-chief elected:

1. Indianapolis, Ind., Nov. 3, 1866; S. A. Hurlbut, Illinois.
2. Philadelphia, Pa., Jan. 15, 1868; John A. Logan, Illinois.
3. Cincinnati, Ohio, May 12, 1869; John A. Logan, Illinois.
4. Washington, May 11, 1870; John A. Logan, Illinois.
5. Boston, Mass., May 10, 1871; A. E. Burnside, Rhode Island.
6. Cleveland, Ohio, May 8, 1872; A. E. Burnside, Rhode Island.
7. New Haven, Conn., May 14, 1873; Charles Devens, Jr., Massachusetts.
8. Harrisburg, Pa., May 13, 1874; Charles Devens, Jr., Massachusetts.
9. Chicago, Ill., May 12, 1875; John F. Hartman, Pennsylvania.
10. Philadelphia, Pa., June 30, 1876; John F. Hartman, Pennsylvania.
11. Providence, R. I., June 26, 1877; John Q. Robinson, New York.
12. Springfield, Mass., June 4, 1878; John Q. Robinson, New York.
13. Albany, N. Y., June 17, 1879; William Earnshaw, Ohio.
14. Dayton, Ohio, June 8, 1880; Louis Wagner, Pennsylvania.
15. Indianapolis, Ind., June 15, 1881; George S. Merrill, Massachusetts.
16. Baltimore, Md., June 21, 1882; Paul Van Der Voort, Nebraska.
17. Denver, Col., July 25, 1883; Robert B. Beate, Pennsylvania.
18. Minneapolis, Minn., July 23, 1884; John S. Kountz, Ohio.
19. Portland, Me., June 24, 1885; S. S. Burdett, Washington.

There were in the Grand Army of the Republic March 13, 1885, 5,026 posts and 269,694 members in good standing.

#### CHRISTMAS CARDS.

FREMONT, Neb.

Tell something about Christmas cards. When and where were they first used? ANNA C. MULLOY.

*Answer.*—It is said that Sir Henry Cole, a well-known patron of art and literature in England first suggested the idea of an illuminated Christmas card to some art stationers in London, about 1860. However this may have been, it is certain that the first Christmas cards for the trade were printed in 1862 by the firm of Goodall & Sons, London. These first attempts were merely ordinary gentlemen's address cards, with the words "Merry Christmas" or "Happy New Year" upon them in fancy-colored letters. A year or two later this firm began printing these cards with embossed figures and landscapes upon them, and dainty ornaments of holly leaves or robins in the corners. Seeing the great sale of small colored pictures for Sunday schools, the firm above-mentioned issued in 1868 several



card pictures, among which was a "Little Red Riding Hood," a "Hermit in His Cell," and several bird pictures. This was the beginning of Christmas cards. Their ready sale immediately stimulated their manufacture by all leading art-houses on the continent of Europe, as well as in America, and in a few more years the Christmas card was an established institution.

## OSSIAN.

OSIARD, III.  
A. C. W.

Tell us something of Ossian, the author of "Fingal."

**Answer.**—The story of Ossian's life is enveloped in as much obscurity as that of Homer. And, as in the case of the Greek bard, it is not certainly known that the Celtic poet ever lived, or that, if he lived, he ever wrote the poems ascribed to him. According to the Celtic legend, embodied in the poem of "Fingal," the poet Oisín, or Ossian, was the son of Finn, or Fingal, a hero of Ireland in the second century. Finn, like King Arthur of England, had a band of heroic followers, called the Fení, whose story resembles that of King Arthur's Knights of the Round Table. All of them were heroes, fearless of danger, "ever ready to do and suffer bravely, battling with all the powers of darkness, loyal to each other, tender and courteous with women, gallant and good men, models of an early chivalry." Oisín was one of these and sang of their brave deeds. The legendary story is that he outlived his companions for several centuries. He had married a beautiful maiden, who came to wed him from a country over the sea, and he returned to her land to dwell. It was the land of the immortals, the country of fadeless sunshine and beauty. After living there three years, as he supposed, he was seized with a great longing to see Erin and his father and brothers again. His wife endeavored to dissuade him, but in vain, and at last consented to his departure on the one condition, that he should not during his absence dismount from a white steed which she gave him. When he got to Ireland he found himself in a country of strangers, for the three years which he had spent in the enchanted land had been in reality three earthly centuries. He asks for the Fení in vain; only the distant memory of them lingers in men's minds. In his grief he forgets his promise to his wife, and dismounts from his horse, when lo! the horse flies away, and Oisín falls to the ground a withered, blind old man. The curse of the old age of men has come upon him, and he can never return to his fair wife and the land of immortal youth. St. Patrick was now in Ireland, says the legend, and to him Oisín repeatedly told the story of the bright beauty and wonderful deeds of the heroes of his youth. This is the tradition. The truth probably is that a poet of the name lived in Ireland in early times. No doubt some of the poems ascribed to him were his composition, and possibly many written by others were also credited to him. No existing specimens of the poetry have been found in manuscript older than the twelfth century, but they no doubt existed in oral tradition many centuries before this. The first English translations of these

poems were made about the middle of the last century. The attention of scholars had but lately been called to the existence of many very old Gaelic manuscripts, and a young man, James Macpherson, a fine Gaelic scholar, was requested by Edinburgh professors to translate some Gaelic poetry into English. He did so, first producing some short pieces, which he said were fragments of a long epic poem, and shortly after the long poem, *Fingal*, complete. The publication of this work in 1762 created a great sensation, and excited much controversy, many literary men doubting the authenticity of the poems. Dr. Johnson, in particular, denounced Macpherson as "an impudent forger," who was trying to pass off his own compositions as translations from ancient manuscripts. Fuller investigation of the matter, however, showed plainly that Macpherson had in no sense invented the characters of his poems, that he actually found such poems in existence either in manuscript or as handed down by oral recitation among the people from an unknown period. But the idea of joining these together with a thread of narrative and making epic poems of them was probably Macpherson's own, as there was no evidence adduced to show that he took them from a similar complete work in Gaelic.

## PARAGUAY AND URUGUAY.

VIREOQUA, Wis.  
BADGER.

Will Our Curiosity Shop give a description of Paraguay and Uruguay?

**Answer.**—Paraguay is one of the smaller states of South America, and, except Bolivia, the only one without any seaboard. Its area is computed at 92,000 square miles and its population at about 476,000. The chief crops raised in the country are maize, rice, coffee, cocoa, indigo, manioc, tobacco, sugar-cane, and cotton. Among the principal trees of the country are several species of dye-wood, and many yielding juices, as the caoutchouc, or India rubber tree, and the valuable shrub known as the Paraguay tea-plant, which is one of the principal articles of commerce. The surface of the country is diversified, a range of mountains of considerable elevation extending through the middle of the country from north to south, forming the water-shed of the Paraguay and Parana Rivers, which bound the small republic on the east and west. The climate is tropical, but is tempered greatly by the inequalities of surface. The inhabitants of the country are descendants of settlers from the north of Spain. The language spoken is Spanish, considerably deteriorated by mixture with Indian dialects. Paraguay was formerly under Spanish rule. In 1811 it declared itself independent. For nearly twenty-nine years its affairs were entirely controlled by a dictator, Dr. Francia, who preserved tranquility by the skillful exercise of arbitrary power. During his administration no foreigner was allowed to enter the country. After his death the country was first ruled by a junta of five, then by two, and in 1846 General Lopez was declared President for life. On his death, in 1862, his son succeeded to the supreme power without opposition. A war with Brazil, beginning in 1865 and continuing until 1870, was ended by

the death of the second President Lopez, and the organization of a new form of government modeled on that of the United States, with a President and Vice President elected every four years, and a Congress of two houses, the members of both elected by the people. The country is really under the control of Brazil, to which it owes an immense debt, which it has no hope of ever being able to pay. There are 175 schools in the country, all supported by the government, with about 7,000 pupils in attendance. There is one railway in Paraguay about forty-five miles in length, and two telegraph lines, aggregating perhaps seventy-five miles of wire. There is a standing army of about 550 men.

Uruguay is a still smaller state. It has an area of 72,112 square miles, and a population of about 530,000. The country is a vast undulating plain, broken in the interior by ridges of hills, but uniformly flat along the seacoast. The entire territory is extremely well watered. The climate is generally temperate and healthy, in the winter heavy rains and cold winds prevail, but in the low lands frost is unknown. The wealth of the country is the enormous herds of cattle raised on the wide plains covered with green turf through the entire year. The soil is fertile, but is little cultivated, being almost wholly used for pasturage. The language of the country is Spanish, and the inhabitants are mostly descendants of early Spanish and Italian settlers. Uruguay was a dependency of Spain until early in the present century, when it became apart of the Argentine Confederation. Subsequently it was annexed by Portugal, and afterward was seized by Brazil. In 1825 it declared its independence, which was recognized by the other South American states in the treaty of Montevideo in 1828. The constitution of the republic was proclaimed in 1831. It is, like that of Paraguay, largely modeled on that of the United States, having a President (but no Vice President) elected for four years, and a congress composed of a senate and house of representatives. The country carries on an active commerce with foreign countries, and exports such quantities of meat, hides, tallow, etc., that its financial condition is quite prosperous. There is an army of 4,800 men, and 418 miles of railway are in operation, and 1,405 miles of telegraph.

#### DR. BENJAMIN CHURCH.

BARNESVILLE, Kas.

Will Our Curiosity Shop give a brief history of Dr. Benjamin Church, Surgeon-General of the Continental Army?

D. H. H.

*Answer.*—Benjamin Church was born at Newport, R. I., Aug. 24, 1734. He graduated at Harvard College in 1754 and became very successful as a physician and surgeon. He was also a gifted orator and the author of a number of fine poems. Before the breaking out of the Revolutionary war, he was a leading Whig politician, a member of the Provincial Congress of 1774, and of the committee of safety, and was appointed Physician-General of the patriot army. He was much given to display and lived very extravagantly, and thus became peculiarly embarrassed. In 1775, for the prospect of gain, he opened a treasonable correspondence with the

British commander, General Cope. He was convicted of this offense by a court-martial, over which Washington presided, was expelled from the House of Representatives and imprisoned at Norwich Conn., where he was denied the use of pen, ink and paper. In the spring of 1776 he was released on account of his failing health and permitted to embark for the West Indies. The vessel in which he sailed was never again heard from.

#### THE GOVERNORS FOR 1886.

Give the name of the Governor of each and every State, also their politics, salary that each receive, and length of term in each State.

LYNN, Mich.

FRED LEACH.

*Answer.*—The following table gives the information desired:

STATE.	Governor.	Party.	Salary.	Term.
Alabama.....	Edward A. O'Neal.	Dem.	\$3,000	2 years
Arkansas.....	Simon P. Hughes.	Dem.	3,500	2 years
California.....	Geo. Stoneman.	Dem.	6,000	4 years
Colorado.....	Benj. H. Eaton.	Rep.	5,000	2 years
Connecticut.....	Henry B. Harrison.	Rep.	2,000	2 years
Delaware.....	Chas. C. Stockley.	Dem.	2,000	4 years
Florida.....	Edward A. Perry.	Dem.	3,500	4 years
Georgia.....	Henry D. McDaniel.	Dem.	3,000	2 years
Illinois.....	Richard J. Oglesby.	Rep.	6,000	4 years
Indiana.....	Isaac P. Gray.	Dem.	5,000	4 years
Iowa.....	William Larrabee.	Rep.	4,700	2 years
Kansas.....	John A. Martin.	Rep.	3,000	2 years
Kentucky.....	J. Proctor Knott.	Dem.	5,000	4 years
Louisiana.....	Sam'l D. McEnery.	Dem.	4,000	4 years
Maine.....	Frederick Robie.	Rep.	2,500	2 years
Maryland.....	Henry Lloyd.	Dem.	4,500	4 years
Massachusetts.....	Geo. D. Robinson.	Rep.	5,000	1 year
Michigan.....	Russell A. Alger.	Rep.	1,000	2 years
Minnesota.....	Lucius F. Hubbard.	Rep.	5,000	3 years
Mississippi.....	Robert Lowry.	Dem.	4,000	4 years
Missouri.....	J. S. Marmaduke.	Dem.	5,000	4 years
Nebraska.....	James W. Dawes.	Rep.	2,500	2 years
Nevada.....	Jewett W. Adams.	Dem.	5,000	4 years
N. Hampshire.....	Moody Currier.	Rep.	1,000	2 years
New Jersey.....	Leon Abbott.	Dem.	5,000	3 years
New York.....	David B. Hill.	Dem.	10,000	3 years
N. Carolina.....	Alfred M. Scales.	Dem.	3,000	4 years
Ohio.....	Joseph B. Foraker.	Rep.	4,000	2 years
Oregon.....	Zenas F. Moody.	Rep.	1,500	4 years
Pennsylvania.....	Robert E. Pattison.	Dem.	10,000	4 years
Rhode Island.....	George P. Wetmore.	Rep.	1,000	1 year
S. Carolina.....	Hugh S. Thompson.	Dem.	3,500	2 years
Tennessee.....	William B. Bates.	Dem.	4,000	2 years
Texas.....	John Ireland.	Dem.	4,000	2 years
Vermont.....	Samuel E. Pierce.	Rep.	1,000	2 years
Virginia.....	Fitzhugh Lee.	Dem.	5,000	4 years
West Virginia.....	E. Willis Wilson.	Dem.	2,700	4 years
Wisconsin.....	Jeremiah M. Rusk.	Rep.	5,000	2 years

#### THE PANAMA CANAL.

BLOOMINGTON, Ill.

Give a brief account of the Panama Canal, with date of beginning, progress, and estimated cost.

E. B.

*Answer.*—The projector and most active mover in this work has been the indefatigable engineer, M. De Lesseps. In 1879 he visited the isthmus and satisfied himself that the construction of a ship canal across it was quite practicable. He then returned to France and formed a stock company to undertake the work, and to this company the grants of land made by the Colombian government in 1878 for the construction of an inter-oceanic canal were, through his influence, transferred. In January, 1881, a number of engineers and surveyors were sent from France to the isthmus, and the actual work upon the canal was begun in the following summer. De Lesseps in his report to the company in January estimated the probable total cost of the work at 512,000,000 francs, and the stock of the company was fixed at 600,000,000 francs to give an ample margin for the work. The canal, he estimated, would be ready for actual operation in 1888. The plan of the canal contemplated a direct cut from sea to sea, open



to the sky through its entire length, with a nominal depth of 29.52 feet below the sea-level and a width of 72.16 feet at the bottom of the canal, also the excavation of a grand side-basin 3.1 miles long, at about the central point of the canal, to facilitate the passage of ships in either direction. It was estimated that a total excavation of 143,880,000 cubic yards of earth would be required for the digging of the canal proper, and the enlargement of the ports at either end sufficiently for the traffic. Since 1881 the work on the canal has been steadily pushed, but the great mortality among the white laborers has been a serious drawback to the undertaking. The amount of excavation necessary has not been found to much exceed De Lesseps' estimate, but the labor and expense of it have been found to be much greater. Already the work has begun to lag from shortness of funds, and in July, 1885, De Lesseps endeavored to secure the guarantee of the French government for a new loan of 500,000,000 francs, but it was refused. The reports of the great engineer have been made annually, and they have uniformly given an encouraging exhibit of the progress of the work. Until January, 1884, the labor of actual excavation proceeded but slowly, so much preparation in clearing was required. In the first four months of 1884, more excavating was done than in all the time previous. Dredges are also now being used for the excavating, and are found to be of much assistance. Up to May, 1885, about 20,000,000 cubic yards of earth, or about one-seventh of the actual digging needed, had been accomplished. Up to that date \$70,000,000, or 350,000,000 francs, had been expended on the work. M. De Lesseps still asserts that if the needed funds can only be furnished the canal will be ready for the passage of ships in 1888.

#### SHAYS' REBELLION.

SENECA, Kan.  
Give an account of the Shays Rebellion in Massachusetts 100 years ago.  
N. F. MAYNARD.

*Answer.*—The cause of this outbreak was the general poverty and suffering after the Revolutionary war. The provinces had been drained of money to pay the expenses of the army. Taxes were high and an enormous number of suits for debt were brought before the courts. The people were distressed, and thought that the easiest way to relieve their distress would be to force the few rich to bear part of the burdens of the many poor. By the fall of 1786 the general discontent had assumed an organized form. The people met here and there and formed themselves into bands of "regulators," and formulated their grievances in demands and petitions addressed to the State authorities. They complained that the salaries of the Governor and other State officers were too high, that the lawyers exacted extortionate fees, and that the taxes were quite too burdensome to bear, and they demanded an issue of paper money and the removal of the Legislative Assembly from Boston. An effort was made in the spring of 1786 to allay the popular discontent by passing an act to diminish costs in the collection of debts, and allow certain back taxes and debts to be paid in produce, but

the people were not satisfied. In September, the first armed demonstration of the insurgents was made, by interrupting and dispersing the court in session at Worcester. In like manner bodies of armed men broke up the sessions of the courts elsewhere, and in December over 1,000 men, under Daniel Shays, who had been a captain of troops during the Revolutionary war, suspended the sessions of the Supreme Court at Worcester and Springfield. In January following, Shays, at the head of nearly 2,000 men, marched upon Springfield with the purpose of seizing the arsenal there. He was opposed by a force of militia under General Shepard, and the insurgents were fired upon and fled, leaving three killed and one wounded on the field. Next day they were followed up by a large militia force under Gen. Lincoln, and at Petersham 150 were taken prisoners, and the remainder dispersed, the leaders making their escape into New Hampshire. A free pardon was offered to all who would lay down their arms, and it was generally accepted. Fourteen of the prisoners were tried and sentenced to death, but were all subsequently pardoned. Shays sought safety for some time in Vermont, but was pardoned at his own petition about a year after. The popular feeling which gave rise to the rebellion continued to prevail, but no further forcible demonstrations were made. And as the country began to prosper the grievances complained of gradually disappeared.

#### THE MODERN ENVELOPE.

LA GRANGE, Ohio.

When were envelopes first used?

G. H. BROUGHTON.

*Answer.*—The envelope as we have it now is a modern invention. The old custom, before the cheap postage system was introduced, was to close by means of sealing-wax or wafers the sheet of paper the letter was written on. With cheaper postage, and the development of the postal system the world over, together with the rule propaying postage, came the idea of making a more convenient covering for letters. An immense industry soon sprang up. The skill of the inventor was turned to the making of machinery which would cheaply and rapidly manufacture envelopes of all kinds, sizes, shapes, and cost, combining slight cost with neatness and strength as covers. The wafer and sealing-wax became in a few years articles which few used, and then chiefly in public, formal, or legal documents, but the people ceased to use them altogether. This branch of manufacture is now carried on extensively in the West as well as at the East, in large factories and paper mills, and the trade of the United States is increasing with the extension of the postal system and the enterprise of commercial travelers to an extent almost incalculable.

#### SPIRITUALISM.

BUSHNELL, D. T.

Give a brief history of spiritualism and its doctrines.

W. F. HAZEA.

*Answer.*—Though there have always been those who have believed in actual communication between this world and the next, modern spiritualism may be said to have had its birth in the spirit rappings of the Fox Sisters, in Hyder-

ville, N. Y., in 1848. The writings of Swedenborg may be said to have prepared the way for it, and certain mesmeric manifestations among the Shaker societies of New York, and the clairvoyant performances of Andrew Jackson Davis in the same State, to have predisposed the populace for ready faith in the supernatural origin of the performances of the Fox girls. The Fox family moved to Rochester during the year 1848, and the curious manifestations following them, much interest was excited. Public exhibitions were given of the phenomena there, and a committee appointed to investigate them, but they were unable to trace the origin of the manifestations to any mundane agency. The excitement spread over the country, and "mediums" through which the phenomena were said to occur, appeared by hundreds and even thousands. One of the most remarkable of these was David D. Home, who in 1855 went to England and also visited Continental Europe, where his performances excited interest and made many converts to the theory of spiritual agency. The new faith may be said to have overrun the entire civilized world within less than twenty years after its first appearance, and to have made converts everywhere and among all classes, but as few attempts have been made to organize these believers into a separate body, it is impossible to make any estimate of their number. It may be said that in recent years general interest in what are called "spiritual manifestations" has largely died out, and the propagation of the belief has largely fallen off. Part of this is no doubt owing to scientific investigations into the phenomena of spiritualism, which have detected many instances of mere conjuring performances. But it must be admitted that even after all juggling and explainable manifestations were thrown out there remained many remarkable phenomena which no theory of mundane force now understood can explain. As has been said, spiritualists are not usually regarded as forming a separate sect with a prescribed creed, but are frequently found holding connection with the various churches. It would, therefore, be impossible to give any comprehensive summary of their doctrines. There are a number of periodicals published in advocacy of spiritualistic opinions, and from them the various shades of doctrine supported by those within and without the churches may be learned.

#### THE AIR-GUN.

RICHMOND, Mich.

Explain the principle of the air-gun, giving its range, power, etc. Can it be made as accurate as other guns? When was it invented, and is there any law against its present use? OLD SUBSCRIBER.

*Answer*—The air-gun is simply a pneumatic engine, for the purpose of discharging bullets by the elastic force of compressed air. It is not known exactly when or by whom it was first invented, but it was certainly in use in France three centuries ago. It is probable that had not gunpowder been discovered at so early a date air-guns might have been made very effective. They are usually made in the form of muskets, having a hollow stock, which is filled with compressed air from a force-pump. The lock is

nothing more than a valve, which lets into the barrel a part of the compressed air from the stock when the trigger is pulled. The gun is loaded with wadding and bullet in the ordinary way, and the bullet is driven from the barrel by the expansive action of the air. The range of the gun depends upon its size and the amount and degree of compression of the air. The velocity of the bullet is proportioned to the square root of the degree of compression of the air. Under the pressure of fifty atmospheres, or 750 pounds, for instance, the impulse given to the ball is almost equal to that of an ordinary charge of gunpowder. Air-guns are sometimes made in the form of walking sticks, so they can be readily used for purposes of defense. Air-guns are generally regarded as somewhat unsafe, but it is not known that any law has ever been enacted against them. In the hands of inexperienced or malicious persons they are capable of doing much mischief.

#### WIVES OF HENRY VIII.

WARRENSBURG, Mo.

How many wives did King Henry VIII. have, what were their names, and how did he dispose of them? J. G. HOUTS.

*Answer*—The first wife of King Henry VIII. was the Princess Catherine, daughter of Ferdinand and Isabella, of Spain. She had been married in 1501 to Prince Arthur, eldest son of King Henry VII., and heir-apparent to the English throne. Arthur died in 1502, and the King, unwilling either to weaken his alliance with Spain or to repay the Princess' dowry, obtained a dispensation from the Pope to contract the young widow to his second son, afterward King Henry VIII. This Prince succeeded to the throne in April, 1509, when but 18 years of age, and was married to Catherine in the following June. They lived together in apparent harmony for nearly eighteen years, but there is little doubt that the gay monarch had grown very tired of his wife some time before he made any attempt to rid himself of her. She was six years his senior, was of a very grave temper, and ill-health and the loss of her children had changed her serious disposition into a settled melancholy. Of seven children none had lived more than a few days after birth except the Princess Mary. The king professed to regard the deaths of these children as a judgment upon him for marrying his brother's widow, and his scruples were quickened, if they had not been suggested, by the charms of Anne Boleyn, a beautiful young maid of honor. In 1527 Henry first avowed his intention of divorcing Catherine. He applied to the Pope for a decree of divorce, but could not get it. The question was wrangled over by bishops, theologians, and the Pope for several years without coming to any settlement, till the king, becoming impatient, was privately married to Anne Boleyn Jan. 25, 1533. Two months later Cranmer, the Archbishop of Canterbury, pronounced this marriage a lawful one, and the first union of the King null and void. Queen Catherine died in January, 1536, and five months later Queen Anne was beheaded. The king had become enamored of the fair face of another of the maids of honor, Jane Seymour, and charges of unfaithfulness and dis-



honor were brought against Queen Anne. As it was well known in court that the king wished to be rid of her, there was no lack of evidence, and May 19, 1536, she was put to death. The next day the king was married to Jane Seymour. Oct. 24, 1537, twelve days after the birth of a son—afterward King Edward VI.—Queen Jane died. Henry's fourth wife was Anne, daughter of the Duke of Cleves, a Protestant prince of the Netherlands. The marriage had been arranged by Sir Thomas Cromwell, the king's Secretary of State, and was performed by proxy Jan. 6, 1540. But King Henry, on the first sight of his wife, conceived a violent aversion to her, for she was plain-looking, old and fat. He had the marriage declared invalid immediately by act of Parliament, and a few days later, July 28, 1540, married Catherine Howard, a niece of the Duke of Norfolk. She was a young woman of but little principle, as the king soon had good reason to suspect. In the latter part of the year 1541 she was tried, convicted of unchastity, and, Feb. 12, 1542, suffered death on the scaffold. July 10, 1543, Henry married his sixth and last wife. This was Catherine, widow of Lord Latimer, commonly known by her maiden name of Catherine Parr. She was a woman of virtue and good sense, and had the good fortune to outlive the King.

#### THE OMAHA INDIAN RESERVATION.

MADRID, Iowa.  
Give the provisions of the act of Congress, approved Aug. 7, 1882, concerning the opening and settlement of the Omaha Indian Reservation.

JOHN D. MCKINNIE.

*Answer.*—This act provided: 1. That the survey should be made of that part of the reservation belonging to the Omaha Indians in Nebraska which lies west of the Sioux City and Nebraska Railroad. 2. That this land should be appraised in tracts of forty acres each, by three competent commissioners—one of whom should be chosen by the Indians—and offered for sale to white settlers. 3. That no more than 160 acres should be sold to one person, and in no instance for less than \$2.50 per acre. 4. That the proceeds of this sale, after paying necessary expenses, should be placed to the credit of the Indians, in the United States Treasury, to bear interest at the rate of 5 per cent per annum. 5. That the remaining land of the reservation, lying east of the Sioux City Road, should be allotted to the Indians in severalty, each man, woman, and child having a certain share. 6. That patents for this land should then be issued, guaranteeing the exclusive title of the land to the individual and his heirs forever. 7. That the land remaining after these allotments were made should be guaranteed to the tribe forever, with provision for its allotment to future generations. 8. That when these allotments had been made and the patents issued, the protection of the laws of Nebraska should be guaranteed to the Indians, and laws cutting them off from this protection positively forbidden. 9. That no land should be opened to white settlers until the work of giving the land in severalty to the Indians and issuing patents therefor had been completed. The work of allotting the land was completed early in 1884. In April of that year the land was opened to white

settlement. As is usual in such cases, it was all taken up in a few weeks.

#### TOBACCO.

COAL CREEK, Iowa.

Give a brief history of tobacco, how, when, where, and by whom discovered, and how first used.

S. CLENDENIN.

*Answer.*—It is asserted that tobacco was in use in China from the earliest times, but we have no certain knowledge that this was the case. If it was so, the knowledge of the plant and its use must have been carefully guarded by the Chinese, for it was not introduced into any other Oriental nation until after its discovery in America. When Columbus first landed on the island of San Domingo, in the West Indies, he found tobacco in use among the natives there, who smoked it when made into small cylindrical rolls, and wrapped in maize-leaf. The Indians on the continent smoked it in a pipe, and among all the tribes, from Peru to Upper Canada, the first discoverers found the plant to be in use, and to have been known to them from so early a period that the time of its first discovery was unknown. The smoking of tobacco with the Indians partook largely of the nature of a religious rite. The seeds of the tobacco plant were first brought to Europe by Gonzalo Hernandez de Oviedo, who introduced it into Spain, where it was first cultivated as an ornamental plant, till a traveler who had noted its use among the American Indians, called attention to its narcotic properties. The name is said to have been taken from Tabacco, a province of Yucatan, though others derive it from Tobago, an island in the Caribbean Sea, and yet others from Tobasco, in the Gulf of Florida. The practice of smoking the dried leaf of the plant became general in Spain, and its manufacture into snuff followed soon after. It was introduced into Italy in 1560, and about the same time into France. The first to bring the seeds of the plant into the latter country was Jean Nicot, the French ambassador to Portugal, in whose honor tobacco received its botanical name Nicotiana, whence the name nicotine, applied to a poisonous extract from the plant. Tobacco is said to have been first introduced into England by Sir Walter Raleigh. From these beginnings the use of the weed spread over the entire Eastern continent. It did not become known in Asia until the seventeenth century, but was taken up by the Oriental nations with great eagerness, and they are now the greatest smokers in the world.

#### THE GREAT SIOUX RESERVATION.

CLEAR LAKE, D. T.

Give some account of the Sioux Reservation, its physical features, boundaries, also the history of the same.

C. B. PARKINSON.

*Answer.*—The great Sioux Reservation of Dakota includes a large part of the southwestern part of the State. The treaty ceding this land to the Dakota Sioux tribes was made in 1868. It gave them the country lying between the northern boundary of the State of Nebraska on the south, and the forty-sixth parallel of north latitude on the north; between the Missouri River on the east, and the 104th meridian of west longitude on the west. This land was to be the

permanent home of the Sioux, and all occupation of it by white men was forbidden. This treaty was prepared by the peace commission which had been appointed in July, 1867, by Congress to investigate the Indian troubles then existing, to confer with the Indians concerning their causes of disaffection, and make treaties with them. The discovery of gold in the Black Hills, on the southwestern part of the reservation, caused a violation of this treaty. The Government wished to purchase this tract, but the tribe would not consent to it. A deputation of Sioux chiefs visited Washington in May, 1875, but President Grant could not induce them to sign a treaty. Commissioners were sent to confer with the Sioux chiefs at a gathering at Red Cloud Agency in September of the same year, but as the Indians set an exorbitant price on their lands the negotiation failed. A war followed, after which the limits of the reservation were somewhat changed. The 103rd meridian was made its Western boundary, and the land included between the two upper forks of the Cheyenne River was made Government property again. This took from the Indians all the section of the territory known as the Black Hills country. The reservation now includes an extent of 21,593,128 acres. It is generally well watered, several fine rivers flowing through it. There is considerable timber along the river borders. The land in the Missouri and other river valleys is fertile, but probably less than one-tenth of the territory included in the reserve can be regarded as good farming land. The country is also subject to long droughts, which interfere seriously with the prosperity of agriculture. But much of the land, though unsuitable for farming, is very well adapted to stock raising.

#### FAN-PALM—TRISTAN DE CUNHA.

CRESTLINE, Kan.

1. Of what country is the fan-palm a native? 2. Give a history of the island of Tristan, in the South Atlantic.

G. L.

*Answer.*—1. The fan-palm is a name common to all those palms that have fan-shaped leaves, and includes a number of species of trees indigenous to Asia, Africa, America, and one European palm. Some of these have leaves several feet broad. The palm-leaf fans of commerce are largely imported from the East Indies, and also from Panama, and other states of Central or South America. 2. Tristan da Cunha is an island in the South Atlantic, lying mid-way between the coast of South America and the Cape of Good Hope, in 37 deg. 6 min. lat. It is about twenty miles in circumference and contains an area of some forty square miles. It is mountainous, the center of the island rising into a volcanic peak 8,326 feet, but is fertile, well watered, and has a mild and healthy climate. The island was discovered by the Portuguese navigator whose name it bears in 1506. During the captivity of Napoleon Bonaparte on St. Helena, from which island it is distant about 1,300 miles, Tristan was occupied by a company of British artillery, to guard against the approach of any vessel with the design of rescuing the captive hero. In 1821, after Napoleon's death, all the soldiers were withdrawn except three, who were left in

charge of a small fort that had been erected on the island. These men, to relieve the tedium of their lonely existence, began to cultivate the island, and succeeded so well that the island soon became known to passing ships as a depot for fresh fruits and vegetables, and the colony was able to carry on a prosperous trade. In 1873 the inhabitants had increased to eighty, who lived in comfortable houses of their own building, and owned over 1,200 head of cattle and sheep.

#### SPILLING SALT, ETC.

DIXON, Ill.

What was the origin of the superstitious habit of throwing a pinch of salt over the left shoulder to prevent disaster?

L. K. GUYOT.

*Answer.*—It should be the right shoulder to secure luck, but probably the "left-handed" throw is quite as efficacious. Superstitious customs of this kind often become altogether reversed, and no one ever knows the difference. The origin of the salt superstition is not difficult to trace. Among the ancients salt was placed upon the head of a victim in sacrifice, since it was regarded as an emblem of purity or sanctification. The Jews had this custom, and the Greeks and Romans took it from them. If the salt was spilled in doing this it was regarded as a bad omen. We have evidence that the Greeks and Romans held this idea, and that they came from it to regard the spilling of salt on all occasions as a portent of evil. We have no evidence that this superstition also prevailed among the Jews, though it is quite possible that it did. Leonardo da Vinci, the great painter, in his famous picture of "The Last Supper," has a spilled salt cellar by Judas Iscariot's arm as though the traitor had overturned it by an accidental movement. To avert this ill omen the Romans adopted the practice of throwing some of the spilled salt over the right shoulder, because among their augurs any movement or appearance on the right side was lucky, and any on the left side was unlucky. From the heathens these pointless superstitions descended in unadulterated absurdity to Christian peoples, and even in this age of enlightenment may still be found to sway the minds and influence the actions of otherwise intelligent persons.

#### GEORGE MACDONALD.

CHICAGO.

Would like a sketch of George MacDonald, the novelist. Where does he now live?

O. V. RYERSON.

*Answer.*—George MacDonald was born at Huntly, Aberdeenshire, Scotland, in 1824. He was educated at the University of Aberdeen, and in Highbury College, London. He became a minister of the Congregational Church, but after some years withdrew from his profession, and subsequently from the church in which he had been educated, and became a member of the Church of England. He then removed to London and devoted himself to literature. His first book, "Within and Without," a dramatic poem, appeared in 1856. He has since published several volumes of poems, and a number of novels, among the most successful of which were "David Elginbrod" (1862); "Robert Falconer" (1868). "Wilfrid Cumbermede" (1871); "The Marquis of Lossie" (1877); "Castle Warlock" (1882), etc.



Some of his works are for children, and all are written with some religious or didactic purpose. In 1872-73 Mr. MacDonald visited the United States on a lecturing tour. He still resides in London.

#### CANADIAN REBELLION OF 1837-38.

Give an account of the Canadian rebellion of 1837-38. Were the rebels all punished, and how were they punished? FARGO, D. T.  
A. KING.

**Answer.**—In 1791 Canada was divided by act of the British Parliament into two provinces, Upper Canada and Lower Canada. Each of these provinces was allowed to have a legislative assembly, elected by the people, but the government was really in the hands of an executive council and a governor appointed by the crown. These appointees were in no way responsible to the popular branch of the government, and this fact was the cause of a widespread and bitter popular discontent, which in 1837 culminated in open insurrection. The complaints preceding the outbreak were various, but all were referable to the irresponsibility of the administration. The rebellion was led in Lower Canada by Louis Joseph Papineau, and in Upper Canada by William Lyon Mackenzie. The first outbreak was in the lower province, where a riot occurred at Montreal Nov. 6, 1837. Warrants were issued for the arrest of the rioters, but these were resisted, and in a few days a force of several hundred armed men had gathered to oppose the militia troops that had been hastily called out by the government. A battle was fought at St. Charles, where many lives were lost, and the town was burned. The rebels were forced to retreat, but Dec. 14 they made a stand again at St. Eustache. The government troops invested the town, burned many houses, and killed and captured a large number of the rebels. The following day the insurgents surrendered in a body, and on condition of laying down their arms were allowed to return peacefully to their homes. The outbreak in Upper Canada proved to be a more serious one. Dec. 4 an attempt was made by Mackenzie to seize the government buildings at Toronto, but this failed. Mackenzie escaped arrest and went over the border into the United States, where he raised a band of volunteers, and then took possession of and fortified Navy Island, in the Niagara River. Hundreds of Americans, as well as Canadians, flocked to his standard, though the government of the United States had declared the neutrality of this country in most positive terms. From Navy Island raids were made upon various points on the Canadian frontier, the steamer Caroline being used for the purpose of transporting the troops and conveying supplies. This steamer Colonel McNabb, who commanded the force of militia guarding the Canadian shore opposite, seized, and, having set it on fire, let it drift over the falls. Full accounts of this circumstance are given in *Our Curiosity Shop* books for 1882 and 1885. Jan. 14 a battery of guns having been placed on the Canadian shore commanding Navy Island, the latter point was abandoned. Bands of men were also stationed by the rebels on islands near

Kingston and near Detroit, and also on Point Pelee Island, in Lake Erie, but the approach of the Canadian troops in each instance caused them to disperse. In June, 1838, there was an invasion of about 1,000 of Mackenzie's men, who crossed Niagara River, but they were repulsed with considerable loss. Mackenzie now took refuge in the Thousand Isles. In the fall, there was another outbreak in Lower Canada, which, however, was promptly quelled. There were two subsequent fights, one at Prescott and the other at Sandwich. Here the invaders were largely "sympathizers" from the United States, the most of them being Irishmen or others of foreign birth, whose hatred of the English nation inspired them to join in the rebellion, in spite of the interdiction placed by our government on all aid from its citizens to the Canadian rebels. In the attack on Sandwich, Dr. Hume, an unarmed man, mistaken for an officer of the militia, was killed. Three men concerned in the attack on him were subsequently tried and executed on the charge of murder. Six of the leaders in the attack on Prescott were also put to death. A few others concerned in acts of peculiar atrocity were also executed, and several were banished to the island of Bermuda, and the rest were pardoned.

#### THE ARMY OF THE REVOLUTION.

How many soldiers did each of the thirteen colonies contribute to the army of the Revolutionary war? MARIETTA, Ga.  
S. C. CLARKE.

**Answer.**—It is not positively known how many men from the colonies served in the war. The official tabular statement indicates a total of recorded years of enlistment and not a total of the men who served. Hence, a man who served from April 19, 1775, until the formal cessation of hostilities, April 19, 1783, counted as eight men in the aggregate. In this basis of enlisted years, the following table gives the contributions of the various States:

New Hampshire.....	12,497
Massachusetts.....	69,907
Rhode Island.....	5,908
Connecticut.....	31,939
New York.....	17,781
New Jersey.....	10,726
Pennsylvania.....	25,679
Delaware.....	2,386
Maryland.....	13,912
Virginia.....	26,678
North Carolina.....	7,263
South Carolina.....	6,417
Georgia.....	2,679
Total.....	233,771

#### RUBBER TYPE.

How is rubber type made? What kind of rubber is used, and how is it prepared? F. S. P.

**Answer.**—The process is a simple one: The matter or letters to be reproduced are first set up in clean-cut metal type, which is then thoroughly oiled. A rim or guard about half an inch high should then be placed around the form, and with a camel's hair brush a thin cream of plaster of paris is laid over it, to exclude all air bubbles. A thicker paste of plaster is then poured over the form, filling in the guard or rim up to its edge, and it is then set aside to harden. Alum water is often used to mix the plaster, as this makes a harder mold, but it takes somewhat longer to

set. When the mold has thoroughly stiffened, it is removed from the type and put in a dry, hot place to become well hardened. The mold is now fitted in a frame of suitable size, and a sheet of vulcanized rubber, about one-eighth of an inch in thickness, is adjusted upon it; and the whole is put in a screw clamp and heated slowly until the rubber becomes soft enough to be forced into the letter-spaces of the mold by tightening the screw. The rubber should be allowed to remain in the press at least twenty-four hours, and until it becomes quite cold. The sheet rubber used for this purpose is usually but slightly vulcanized, having had about 3 per cent of sulphur kneaded into it with rollers while subjected to a very high temperature. After the impression has been made, therefore, it is necessary to add a greater proportion of sulphur to insure the required hardness in the type. This is done by immersing the rubber, which has been separated from the mold, in a mixture of thirty parts bi-sulphide of carbon and one part chloride of sulphur. This is exposed to a temperature of from 70 to 80 degrees until all the suboxide of carbon has volatilized, and is then immersed in a boiling alkaline solution—made by dissolving nine ounces of caustic potash in one gallon of water—for a few minutes, and after a subsequent washing in clear tepid water is made quite ready for use.

#### THE TIDES.

Are the earth's motion and the attraction of the moon the only causes of the tides? O. F. FIELD.

*Answer.*—No; the attraction of the sun is also an important factor in causing the phenomena of the tides. Though the sun is so very much farther from the earth than the moon, its mass is so enormous that it has considerable tide-producing influence. The force which the sun exerts is the same on both sides of the earth at the same time. The tide-producing force of the sun is about four-tenths that of the moon. At new and full moon the wave spheroids due to these two bodies have their axes almost coincident, therefore their forces are united, and the ebb and flow exceed the average, so that we have spring tides. When the moon is in her first or third quarter, the axes are nearly at right angles, the two forces act against each other; the ebb and flow are less than the average, and we have the neap-tides.

#### LONGFELLOW'S "VILLAGE BLACKSMITH."

CENTER POINT, ILL.

Give an account of Longfellow's "Village Blacksmith," locate the smithy, and tell the story of the chair made from the chestnut tree. SUBRIEBA.

*Answer.*—Longfellow himself gives no further account of the circumstances of writing this poem in his journal than the lines bearing date Oct. 5, 1839—"Wrote a new psalm of life; it is 'The Village Blacksmith.'" It is known, however, that the smithy referred to was the one in Cambridge, Mass., and the blacksmith was a sturdy old man whom Longfellow often saw at work there in his daily walks through the village. The poet was at this time a professor in Harvard College. A large horse-chestnut tree overhung this smithy, and in 1879 an arm-chair

was made from the wood of this tree and presented to the poet on his 72d birthday by the school children of Cambridge. Over 700 children contributed towards this gift.

#### BROOK FARM.

TOMAH, WIS.

Give a sketch of the enterprise at Brook Farm, Mass. H. C. W.

*Answer.*—The Brook Farm project originated with Mr. George Ripley, a prominent humanitarian of Boston, and Dr. William H. Channing. The original plan was to make of it a religious and literary community, supported by joint labor of its members on a farm which was the common property of all. All were to live simply, and, as the hours of labor were brief, abundant leisure was to be secured for social and intellectual intercourse. All the members of the community were to be stockholders in the community's property, some giving money and others contributing labor as an equivalent. Many persons of note in the literary world were members of the association, including Theodore Parker, George William Curtis, Nathaniel Hawthorne, Charles A. Dana, Elizabeth P. Peabody, Margaret Fuller, and others. The association was organized in 1841, the farm purchased, and by the following spring its plan was fairly in working order. It was then known simply as the West Roxbury Community, Brook Farm being the name of the place owned by the society. A quarterly journal called the *Dial* was carried on by members of the society. In December, 1843, a convention of reformers of various grades was held in Boston, to discuss the ideas of Fourier, which had just become known in this country. The result was the conversion of all the Brook Farmers to Fourierism, and the transformation of their simple community into a Fourierist "Phalanx" under the name of the Brook Farm Association. The leaders of this movement were George Ripley, Minot Pratt, and Charles A. Dana. The land owned by the association at this time aggregated 208 acres, situated at West Roxbury, eight miles from Boston, and their property, real and personal, was estimated at \$30,000. In the summer of 1844 the *Dial* suspended publication. The new organ of the association was the *Phalanx*, then published in New York, afterward removed to Boston, where its name was changed to the *Harbinger*. The Brook Farm Association was incorporated by the Massachusetts Legislature in the winter of 1844-5, under the name of "The Brook Farm Phalanx." From this time the main function of Brook Farm was propagandism. It continued the management of the communal affairs at West Roxbury, and made many improvements there, and put up large workshops and other buildings. But outside of this work its members conducted the *Harbinger*, which was published weekly and was given up almost wholly to advocacy of Fourierism, and it also instituted a missionary society and a lecturing system. Its members, with some outside sympathizers, formed an organization, the American Union of Associationists, the two foremost workers in which were William H. Channing and



Charles A. Dana, and eloquent appeals in the form of circulars were sent out, urging the formation of similar societies all over the country. A number of these were formed, but, unfortunately, nearly all were failures. March 3, 1846, the large "phalanstery," in process of erection at Brook Farm, was burned. This was a terrible blow to the society, and one from which it never recovered. The organization lingered, and continued the publication of the *Harbinger*, till October, 1847, but the hope of becoming a model "phalanx" died out long before that time. The associate life was broken up in 1847, and the Brook Farmers sought other fields of labor. The end of Brook Farm was virtually the end of Fourierism in the United States, for though other organizations of a similar character had been formed after its example, their lives were of short duration, when the inspiration of the Roxbury apostles was gone.

#### OUR SOUTHWESTERN BOUNDARY.

How is the boundary line between this country and Mexico marked?  
ELDORADO, Iowa.  
 BETTIE COE.

*Answer.*—The international boundary line between the United States and Mexico is marked by pyramids of stone placed at irregular distances along the line on prominent peaks and at the crossings of streams, roads, etc. The line was not surveyed, but the locations of the monuments were determined by calculations based on astronomical observations.

#### JOSEPH COOK'S "SIX NOVELS."

What are the six novels that the Rev. Joseph Cook says will repay reading?  
CINCINNATI, Ohio.  
 J. E. JOHNSON.

*Answer.*—These preferred works are as follows: Jean Paul Richter's "Titan," Goethe's "Wilhelm Meister," Victor Hugo's "Les Miserables," Mrs. H. B. Stowe's "Uncle Tom's Cabin," Dickens' best novel to be selected by the reader, and George Eliot's "Romola."

#### THE RAPPITES.

Tell us something about the colony of communists living at Economy, Pa., their religion, habits, managers, etc.  
SADORUS, Ill.  
 GRANT THORNTON.

*Answer.*—These people are known as the Rappites. Their founder, George Rapp, was born in Wurtemberg, Germany, in 1770. During the last decade of the century an unusual religious excitement prevailed in that locality and Rapp became imbued with the idea that he had received a divine call to restore the Christian religion to its original purity. He, therefore, organized a sect on the model of the primitive church, all of whose members were pledged to strict celibacy of life, and to a common ownership of property. Having some difficulty with the Wurtemberg authorities on the subject of worship, he came, in 1803, to America to find a home for his flock. He purchased 5,000 acres of land in Butler County, Pa., and in 1804 his flock of disciples, 600 in all, came over the ocean and joined him. They soon had built up a flourishing village, which they called Harmony, and their diligence made the surrounding wilderness bud and blossom as the rose. In 1814, desiring a better location for business, they sold their Pennsylvania property and moved to Indiana, where, on

the banks of the Wabash, they built a second village called Harmony. Here they prospered more than ever, and new members swelled their number to nearly a thousand. In 1824 they again became dissatisfied with their location on account of bad neighbors and malaria. They again sold out all their property, disposing of the entire town, its houses, mills, factories, and 30,000 acres of land for \$150,000. This was an immense sacrifice of their valuable labor on the property, but they consented to the loss in order to get away from their distasteful surroundings. The property was purchased by Robert Owen, who had just come over from England in search of a good locality for a socialist community. The Rappites, in the meanwhile having through their leader purchased a location in Beaver County, Pa., on the Ohio River, built a steamboat, and removed in detachments to their new and final place of settlement. There they built the town of Economy, and there what are left of the original colony of the Rappites still reside. George Rapp died in 1847. The community has always been very prosperous, but while it has grown steadily in wealth, it has decreased in numbers by many secessions on the part of the younger and deaths of the older members. At one time, soon after the founding of Economy Village, the sect numbered about 1,800; there are now less than 100 living in the neat little village, and nearly all of these are old men. They own much property in real estate, in coal mines, and factories, aside from their property in Economy Township. The colony has always used the German language almost exclusively. In religion they are strict Protestants, accepting the commands of the New Testament literally as their code of conduct. Members of both sexes have always been admitted into their church, but marriage has been positively prohibited among them. Their reputation has always been that of a moral, intelligent, and industrious community.

#### PARLIAMENTARY ELECTIONS IN GREAT BRITAIN.

Tell something of the machinery of Parliamentary elections in Great Britain, the balloting, etc.  
DONNY CITY, Cal.  
 JOSEPH SMITH.

*Answer.*—When a new Parliament has to be assembled, the Lord Chancellor, by order of the sovereign, directs the clerk of the crown to prepare and issue, under the great seal, writs of election to the sheriffs of counties, both for the counties and the boroughs. Each sheriff, on receiving the writ for a county, appoints a day for the election to be held. This day must not be less than nine, nor more than twenty-one days, later than his receipt of the writ. Each county is divided into districts, with a polling place in each, at which the electors vote, and at the termination of the poll the return is transmitted to the sheriff, who proclaims the successful candidates. In borough elections in England and Ireland, the sheriff, on receiving the writ, sends the order appointing the election day to the returning officer of the municipality, who superintends the casting of the votes; in Scotland, the sheriff has the management of borough as well

as county elections. The names of all persons elected, both in counties and boroughs, are returned by the sheriff to the clerk of the crown. When vacancies occur during a session of Parliament they are filled by the same procedure under special writs issued by authority of the House. Until recent years all elections were made by a show of hands or by acclamation. If no more candidates were brought forward than were to be elected from the district, the sheriff declared them elected without calling for any difference of opinion, but if there was an excess of candidates a show of hands was called for by this officer. Polls were not held unless demanded by one side or the other. In 1869, test elections by ballot were held in Manchester and Stafford, and as voting was found to be more rapidly and more quietly conducted by this plan than by the other, the ballot act was passed in 1872. Under this, voting by ballot has been introduced into all parliamentary and municipal elections, except parliamentary elections for the universities. The act requires the names of all the candidates to be printed on white paper, and the voter must fill up with a cross, X, the blank on the right hand, opposite the name he votes for. The register of voters shows when an elector has received a ballot from one of the officers of election, and each ballot is marked with a number corresponding to the counterfoil of the paper which remains with the officer. This counterfoil is also marked with the voter's number on the register, so that the vote may be identified, if the poll should be scrutinized or challenged. The voter folds the ballot so as to conceal his mark, but to show the stamp to the officer, and it is dropped in a box which is locked and sealed. The elections are held in school-rooms or other public places, and a separate compartment must be provided for every 150 voters. A returning officer counts the ballots and transmits them, sealed, after the result of the election has been declared, to the clerk of the crown in chancery, who destroys them at the end of one year. Frauds in voting, such as using non-official ballots, destroying a ballot or effacing a mark thereon, are punishable, on the part of officials, with imprisonment for two years; in the case of voters the term is six months.

#### THE HESSIANS AT TRENTON.

FERRIS, Hancock Co., Ill.

Were the Hessians at Trenton holding a drunken carousal when surprised by Washington?

JOHN BLIVINS.

*Answer.*—The Hessians were defeated and captured at Trenton Dec. 26, 1776. The story commonly told is that those soldiers were still sleepy from their Christmas festivities. Edward J. Lowell, in "The Hessians" in the Revolutionary war, calls attention to the fact that in Germany it is Christmas Eve that is celebrated, and the Hessians would, therefore, have had thirty-six hours to recover from the effects of their potations before 8 o'clock on the morning of Dec. 26. The best authorities are agreed that the surprise of the foreign auxiliaries was owing to the course of Colonel Rall, the officer in command of the Hessians, who was over-confident of

his own strength and despised the poorly armed, poorly clothed, and poorly paid patriot forces under Washington. Colonel Rall's feeling of security was such that he refused even to erect garrison redouts, and boasted that there was no danger to him and his troops. There can be no doubt that this officer's conduct had a demoralizing effect upon the soldiers in his command; that discipline was indifferent; that the commander was a man not given to too much temperance in eating and drinking, but the gallantry of the patriot army led by Washington himself was in no way dimmed, as the hireling foreign foes made several stubborn attempts to hold their own, and capitulated only when they saw that their fate was sealed.

#### A REMARKABLE MONASTERY.

CHICAGO.

There is said to be a building in Europe into which no woman has entered for 1,400 years. Where is it? X. N.

*Answer.*—The building referred to is the Monastery at St. Honorat, on the Island of St. Honorat, near Cannes, France. This establishment was founded near the end of the fourth century, and to this day no woman has been allowed to enter its precincts.

#### CONSUMPTION OF COAL BY STEAMERS.

CHICAGO.

What is the average consumption of coal on our first-class ocean steamers in actual voyage? What is the usual consumption on the trip from New York to Liverpool? C. M. H.

*Answer.*—The amount of coal used depends on several things—the size of vessel, rate of speed, class of boiler used, number of cylinders in engine, etc. Late improvements in the marine steam engines, especially the introduction of what is known as the compound engine, have accomplished a very great saving in the average amount of fuel used. To show what progress has been made in this particular, the following facts may be quoted: The paddle-wheel steamer *Scotia*, of the Cunard line, put afloat in 1862, and at that date regarded as the best and latest type of engineering skill, a vessel having a midship section of 841 square feet, consumed 160 tons of coal per day, or 1,600 tons on the ten days' passage between New York and Liverpool. The City of Brussels, a screw steamer of the Inman line, put afloat in 1869, and having a midship section of 909 square feet, consumed 95 tons per day, or 950 tons during the passage. The *Spain*, a screw steamer of the National line, launched in 1871, with compound machinery, and the longest vessel on the Atlantic, having a length of 425 feet 6 inches on the load line, beam molded 43 feet, draft, loaded, 24 feet 9 inches, made the passage in September with 53 tons of coal per day, or 530 tons on the ten days' run. All these three vessels had the same average speed, and only a small percentage of the gain in fuel consumption could be ascribed to the finer lines and proportions, and therefore better sailing quality of the later constructed vessels. Still another recent instance is given of a steamer having the compound engine which used but forty tons of coal per day. The four-cylinder compound engines of the White Star line use more coal per day but make faster average trips,



so that the aggregate is about the same for vessels of the same relation of average power per tonnage. To illustrate even more forcibly the success of modern improvements in utilizing the power of coal we may mention an instance put on record in 1885. This was not one of the first-class steamers, trimly built with especial reference to making good speed, but a large vessel, constructed particularly for the conveyance of bulky cargoes. It was the steamer *Burgos*, which left England for China with a cargo weighing 5,600,000 pounds. During the first part of the voyage, from Plymouth to Alexandria, the consumption of coal was 282,240 pounds, the distance being 3,380 miles: the consumption per mile was, therefore, only 83.5 pounds, and the consumption per ton of cargo per mile, 0.028 pound; in other words, half an ounce of coal propelled one ton of cargo a mile. This is recorded as the most successful instance yet known of utilizing the energy of fuel in transportation.

#### BATTLE OF LAKE ERIE.

BLOOMING PRAIRIE, Minn.

Give a list of the commissioned officers engaged on each side of the battle of Lake Erie, fought Sept. 10, 1813.

A. COLQUHOUN.

*Answer.*—We do not find in any history any complete roster of these officers. But the following names are given in the histories of Lossing and Roosevelt as of officers who took a prominent part in the action. On the American side: Captains O. H. Perry, Jesse D. Elliott; Lieutenants John H. Packet, Daniel Turner, A. H. M. Conklin, Thomas Holdup, J. J. Yarnall, John Brooks, D. Forrest, Breese, Dunham, Edwards, Smith, and A. Perry; Midshipmen George Serrat, Swartout, Lamb, Claxton, Lunt, Clark, and Cummings; Sailing Masters William Taylor, T. Brownell, S. Champlin, T. C. Almy, Dobbins; Pursers S. Hambleton, McGrath; Master's Mate McDonald, and Surgeon Parsons. On the British side were: Captains Barclay, Finnis, Garden; Lieutenants Bignall, Buchan, Garland, Stokes, and Roulette; Midshipman Foster; Master's Mates Gateshill and J. Campbell, and Purser Hoffmeister. The American squadron had 490 men and officers, though some 75 of these were unfit for duty: the British effective force is estimated at 440 officers and men.

#### THE RUNIC ALPHABETS.

DODGEVILLE, Iowa.

Tell something about the "Runic Script" in which the sagas of the Norsemen were written.

HAYLOR KNUTSON.

*Answer.*—The runic characters constituted the earliest alphabet in use among Teutonic and Gothic nations of northern Europe. The exact date of their origin is unknown. The name is derived from the Teutonic word *run*, a mystery, and these characters seem to have been first used for purposes of divination, and were cut upon smooth sticks, which were thought to be thus converted into magic wands. As some of these characters bear a remarkable resemblance to the letters of the Phœnician alphabet, it is supposed that they were introduced to northern peoples by the Phœnician merchants who traded on the Baltic coasts in early times. The countries in which traces of the runes exist are Denmark,

Norway, Sweden, Iceland, Germany, and Britain, and traces of them have been found in France and Spain. Though the characters found in these countries are not all alike they have a strong family likeness, showing a common origin. The Norse alphabet is generally considered as the oldest and the parent of all the rest. It had sixteen letters, four vowels and twelve consonants. Each letter is, as in the Hebrew-Phœnician alphabet, derived from the name of some familiar object. We have no reason to believe, however, that the runes were ever in familiar use, like the written languages of other nations. Nor have any traces ever been found of them in the form of parchment records. They have been found engraved on the hilts and blades of swords, on medals, rings, and brooches; also on coins, monumental stones, rocks, and crosses, and it seems plain that their value as a means of recording history was almost lost sight of, in the popular belief in their magic power. Because of this general belief it was the custom of the early Christian priests to discourage their use and to have them destroyed wherever possible. In some places, however, as in Northumbria, Mercia, and East Anglia in Britain, they seem to have been in a measure adopted by the Christians as a convenient channel for conveying instruction to the people, and Christian inscriptions in runic characters are here found of as late date as the middle of the tenth century. Runes are said to have been laid aside in Sweden by the year 1001, and in Spain they were officially condemned by the council of Toledo in 1115. Runic writing usually had its lines reading alternately from right to left, or up and down. There was also a system of secret runes, which none but the Druid priests understood. The characters are also used, like those of the Hebrew alphabet, to denote numerals.

#### EMANCIPATION IN GREAT BRITAIN.

VALLEY, Neb.

Give a brief account of slavery and emancipation in Great Britain and her colonies. Where were slaves held, and when were they liberated? I. K. MASON.

*Answer.*—Slavery existed in early times in Great Britain as a part of the feudal system. The English peasantry, in Saxon and Norman times, were sold in the markets like cattle for exportation. After the Norman conquest the serfs were mere chattels, bought and sold with the land on which they toiled, and many cruel laws confirmed the absolute power of the master over them. But with the advancement of civilization the feudal system gradually weakened. The church had always opposed the practice of holding Christians in bondage and had set many free, and numbers took advantage of the privilege granted them in certain cases to purchase their own freedom. In 1574 Queen Elizabeth ordered the bondsmen in the Western counties of England to be set free at easy rates. In 1660, the abolition of tenures and knight's service destroyed serfdom. But a form of the cruel system continued to survive in Scotland, where the law compelled colliers on entering a mine to perpetual service there, the right to their labor passing with the

mine to any inheritor or purchaser, and their children being in like manner attached to the mine, and forbidden under severe penalty to seek other employment. This form of legalized serfdom was not abolished until 1780. The negro slavery of modern times, however, never became naturalized in England, though many Englishmen shared in the profits of the slave trade. An account of the first part taken by England in this traffic, through Sir John Hawkins, will be found in Our Curiosity Shop book for 1885. Between the years 1680 and 1700, Great Britain exported from Africa to America no less than 300,000 slaves, and between 1700 and 1786, she imported 610,000 into Jamaica alone. In all England's American colonies slaves were held. But it should be said, to the credit of Englishmen, that the condition of the slaves in these colonies was far better than in most slave-holding countries. The flogging of women was prohibited by law, and courts were established to hear complaints of slaves who regarded themselves cruelly treated. But while slavery was legalized in colonies under British rule it was decided, in 1772, by the court of King's Bench, in the case of the negro Somerset, that as soon as a slave set foot on British soil he became free; though, if he returned to the colonies, he might be again reclaimed by his master. Before the idea of emancipation of these slaves was contemplated, efforts were made in Great Britain to put an end to the share of that country in the slave trade. In 1787 a society for the suppression of the slave trade was formed in London. The most active member of Parliament in the cause was William Wilberforce, and he secured the favor of Mr. Pitt, the Prime Minister, for the contemplated measure. In 1788 an order from the crown directed an inquiry into the traffic, and the same year an act was passed to regulate the burden of slave ships. Mr. Wilberforce's bill forbidding further importation of slaves was debated in 1791, but was not passed. As Great Britain's conquest of the Dutch colonies in America led to a great increase in the British slave trade, this traffic in the conquered colonies was forbidden in 1805, and in 1806 an act was passed forbidding British subjects to take part in it, either for British colonies or foreign countries. In the next year, the general abolition bill, making all slavetrade illegal after Jan. 1, 1808, was adopted by parliament. As the profits of the traffic induced British subjects to continue in it, under cover of the flags of other nations, it was in 1811 made a felony, punishable with imprisonment at hard labor or transportation. Subsequent laws made it piracy, to be punished with transportation for life. The agitation on the subject directed the attention of philanthropists to the more complete measure of abolishing slavery in all the British colonies. An anti-slavery society was formed to press the subject upon the attention of parliament. In 1833 an emancipation bill passed both houses and received the royal approval. This act gave freedom to all slaves throughout the British colo-

nies, and indemnified their owners with an award of £20,000,000. Slavery was to cease on Aug. 1, 1834, but the slaves were for a certain time to continue as apprenticed laborers with their former owners. As this apprenticeship was not wholly satisfactory to either side it was shortened, and complete emancipation took place in 1838.

#### HISTORY OF CUBA.

Give a short history of Cuba, from its discovery to the present time. PARSONS, Kan.  
O. CLEMMONT.

*Answer.*—Cuba was discovered by Columbus, Oct. 28, 1492. He gave to the island the name of Juana, in honor of Prince Juan, of Spain; later it was called Fernandina, for King Ferdinand, and still later the names Santiago and Ave Maria were given it by other explorers, but none of these appellations supplanted the native name, Cuba. The island was thickly populated when discovered with a race of Indians so docile and unwarlike that Diego Velasquez, in 1511, easily overran their territory and reduced them to complete subjection with an army of but 300 men. The natives were allotted as slaves to the Spanish settlers, who employed them in gangs in the cultivation of sugar-cane, and treated them so cruelly that fifty years later they were wholly exterminated. As early as 1534 the importation of negro slaves began, to supply the place on the sugar plantations of the perishing aborigines. The Spaniards rapidly colonized the island, building several important towns on the coast. Havana was founded in 1514; in 1534, and again in 1554, it was destroyed by the French invaders, but each time was speedily rebuilt. In 1624 it was taken by the Dutch, but was soon restored. The island was governed as one department until 1607, when it was divided into two. Absolute power, both civil and military, was vested in the governors, or captains general, who were appointed by the Spanish king. About the middle of the seventeenth century a serious epidemic carried off many of the white inhabitants; this is supposed to have been the first appearance of yellow fever. During that century the island suffered much from the invasions of the French buccaneers, who in 1688 plundered and burned the flourishing town of Puerto Principe. After these robbers had been suppressed, the commercial prosperity of the island increased greatly. In 1717 the Spanish government monopolized the tobacco trade, in spite of much popular protest and even overt acts of rebellion. This monopoly was not yielded until 1818. In 1762 Havana was taken by the English but was surrendered during the following year in exchange for Florida. Cuba now became the center of the slave trade for South America, and in 1789 this traffic, which had formerly been a monopoly of the government, was declared free to all, and was greatly increased. By 1841 the annual importation of negroes for labor was over 13,000. By the active efforts of Captain General Valdez this traffic was almost entirely suppressed between 1845 and 1847, but the indulgence of the Spanish authorities permitted its



revival. There have been several insurrections on the part of the negroes, the most important being that of 1848, which was not crushed until 10,000 of the slaves had perished. With a few exceptions, when the Captain General has taken some interest in the people, and endeavored to advance their interests, the government of Cuba has always been cruelly oppressive, and if the island increased in material prosperity, this was done in spite of all the obstacles which tyrannous mismanagement could invent. Since the annexation of Florida, the United States has taken considerable interest in the destiny of Cuba, and propositions have been made to Spain for its purchase, but these have all been positively rejected. In 1849-51, occurred the Lopez revolution in which the insurgents were largely aided by recruits from this country, but the revolt ended in failure, and Lopez was hanged. There was another attempt at revolt in 1854, but it was crushed in its very beginning. The desire for independence was not destroyed by these failures, however, and the Spanish revolution of 1868 giving the supposed favorable opportunity, the Cubans again rose. This time their effort was so far organized as to be partially successful. In several encounters with the government forces, during the latter part of the year 1868, the rebels gained the advantage. In April, 1869, a constituent assembly proclaimed the republic of Cuba, and made Manuel Cespedes President. The total abolition of slavery and the introduction of freedom of religious belief were among the measures decreed by the assembly. But the Spanish authorities re-enforced their army, and the war was carried on, attended with shocking atrocities on the part of the government. In May, 1869, General Thomas Jordan, a graduate of West Point, and an ex-Confederate officer, with a force of 175 officers and men, and a large supply of arms and ammunition, effected a landing in aid of the insurgents. General Jordan was soon after made commander in chief of the rebel army. In 1870 the United States offered its services as mediator between the contending parties, but these were refused. In December, 1871, the Spanish commander-in-chief issued a proclamation declaring that every insurgent taken in arms after Jan. 15, 1872, should be shot, and all surrendering after that date should be imprisoned for life. This cruel order did not have the effect sought, however, and the rebellion continued. General Valmaseda was displaced the following year by General Pieltain, who, in July, 1873, sent to President Cespedes an offer of peace on condition that Cuba should remain a province of the Spanish Republic, but this offer was declined. There was a comparative suspension of hostilities during 1873. Up to that year 70,000 Spanish soldiers had been killed, and of the Cubans 14,000 had been killed in battle and 43,500 prisoners put to death. General Pieltain was superseded in November, 1873, by General Jovellar, and in December Cespedes was deposed from the Presidency of the Cuban Republic and succeeded by Salvador Cisneros. Hostilities continued with

varying activity until March, 1878, when the insurgent chiefs concluded terms of peace with the authorities, surrendering all their arms and war supplies. It was estimated by Captain General Jovellar that during the ten years of conflict 200,000 of the combatants had perished, and the cost of the war to both sides aggregated \$700,000,000. The conditions of peace granted to the island its own political and administrative regime and a permanent representation in the Spanish Cortes by deputies duly elected. In August, 1879, a fresh rising took place which, however, was quelled less by the government forces than by the firm refusal of the Liberal party in Cuba to give it assistance. Jan. 15, 1881, the permanent restoration of peace in the island was announced in the Cortes. Cuba does not yet possess the right of self-administration, the real power concentrating in the hand of the Captain General, appointed by the Spanish government, and the Minister of the Colonies at Madrid. This administrative centralization is felt throughout all the details of local existence, and is undoubtedly a great drawback. The question of slavery is forcing its way into politics now also, and upon the manner in which it is dealt with the future peace and prosperity of the island will no doubt largely depend.

#### THE ECLIPSE OF 1806.

NAPERVILLE, Ill.

Give some account of the great eclipse of 1806.

S. G. BIEDELMAN.

*Answer.*—This eclipse occurred Jan. 16, 1806. It was an eclipse of the sun, visible in Western Europe and the Atlantic States. Its greatest shadow fell about latitude 42 degrees, causing a total obscuration to observers on the ocean, in Spain, and in the States of New York, Connecticut, etc. It had a totality of about three minutes at its most perfect point of obscurity. This was before the era of scientific observation and photography, and we have little record of this phenomenon beyond the fact of its appearance. A very complete non-scientific account of it was written by the novelist Fenimore Cooper, in which all the peculiar occurrences attendant upon this natural phenomenon are most graphically delineated. We are told how the stars became visible, how all the birds and fowls went to rest, the cows came lowing in from the pastures, the whippoorwill began its evening song, and though we are familiar with these facts as told of every solar total eclipse, they are invested with unusual interest in this case, owing to the narrator's power of vivid description.

#### GENERAL LEWIS WALLACE.

CHICAGO.

What are the political and religious affiliations of General Lewis Wallace? Give a brief sketch of his life and works.

*Answer.*—General Lewis Wallace has been openly identified with the Republican party ever since the war. As to his religious opinions he is not himself a member of any church, but as his wife is an earnest Methodist he usually attends the M. E. church. The General is a son of Governor David Wallace, a well-known politician in Indiana's early history, who served in the State Assembly for many years, was also Governor and

Representative in Congress. Lewis was born in Fountain County, Indiana, in 1828. He studied law and began practice in Crawfordsville, but during the Mexican war enlisted in the First Indiana Volunteers, and received a lieutenant's commission. He afterward resumed his profession, and served one term in the State Senate. When the civil war broke out he was appointed Adjutant General of the State volunteers, and afterward was made colonel of a regiment of zouaves, which he led at the battle of Romney, W. Va. Returning to his native State, he raised the Eleventh Indiana Regiment, of which he was made Colonel, and Sept. 3, 1861, he was commissioned brigadier general of volunteers. He led a division at the capture of Fort Donelson, where he won the grade of major general of volunteers, to date from March 4, 1862. He was conspicuous for his gallantry at Shiloh, and served with credit at Corinth and subsequent engagements. In 1862 he was in command of a large force sent to garrison Cincinnati, then threatened with rebel invasion. In June, 1864, he commanded at Monocacy, Md., where he was defeated by General Early, and subsequently he was superseded in command of the Middle Department by General Ord. He resigned his commission in November, 1865. In 1881 he went to Constantinople as United States Minister, and in 1882 was made Envoy Extraordinary and Minister Plenipotentiary at the same capital. His first novel, "The Fair God," was written in the occasional brief leisure of his public life, and was published in 1873. Its success induced him to contemplate another effort, and in 1880 "Ben Hur, a Tale of the Christ"—in some respects one of the most remarkable works of fiction of the time—was given to the world. It is said that General Wallace was first led to fix upon the time and place of this work by hearing a lecture from the noted skeptic, Colonel Ingersoll. The General is inclined, both by early education and later conviction, to a strong faith in the historical truth of Christianity. The skeptical lecturer strengthened rather than weakened this faith, and inclined him to think that if the story of Christ could be brought before the minds of men, not as a tradition but as a living reality, the scoffs of unbelievers would have less influence with them. He therefore wrote his "Tale of the Christ," which for vivid portraiture of past times and characters has been surpassed by none of those works classed as historical fiction.

#### DEEP SEA SOUNDINGS.

STRAITFORD, IOWA.

1. What is the greatest depth of the ocean ever measured?

JOHN A. JOHNSON, SR.

*Answer.*—1. The deepest verified soundings are those made in the Atlantic Ocean, ninety miles off the island of St. Thomas, in the West Indies, 3,875 fathoms, or 23,250 feet. Deeper water has been reported south of the Grand Bank of Newfoundland, over 27,000 feet in depth, but additional soundings in that locality did not corroborate this. Some years ago, it was claimed that very deep soundings, from 45,000 to 48,000 feet, had been found off the

coast of South America, but this report was altogether discredited on additional investigation in these localities. The ship *Challenger*, which in 1872-74 made a voyage round the globe for the express purpose of taking deep-sea soundings in all the oceans, found the greatest depth touched in the Pacific Ocean less than 3,000 fathoms, and the lowest in the Atlantic, 3,875 fathoms, as given above.

#### THE DEATH PENALTY IN GREAT BRITAIN.

DES MOINES, IOWA.

Tell something of the death penalty in England. When did hanging supplant beheading there? Was the punishment of beheading forbidden by act of Parliament, or did it fall into disuse through enlightenment of public opinion without formal legislation?

SUBSCRIBER.

CHICAGO.

Was there in Great Britain, between the years 1860 and 1869 an instance in which a criminal was sentenced to be hanged, drawn and quartered?

R. M. MCKENZIE.

*Answer.*—The cruel ingenuity of our Saxon-Norman ancestors was not restricted to one mode of capital punishment, by any means, but rang the changes on burning, or boiling the victims alive, disemboweling them, tearing them limb from limb, hanging, beheading, etc. William the Conqueror first introduced the punishment of beheading, as a less ignominious method of putting high criminals to death than any then in vogue. The earls of Huntingdon, Northampton, and Northumberland were the first to be executed in this way, in the year 1076. Subsequently this mode came to be often used, especially in the reigns of the Tudors and Stuarts, when men and women of the noblest blood perished thus for heresy or political offenses. A statute passed in 1531 sentenced poisoners to be boiled alive, but this was too revolting and was abolished in 1547. Death by burning was the regulation mode of putting an end to witches in the sixteenth century, and subsequently, for which drowning was sometimes substituted, and toward the last days of the delusion, hanging. The last executions for witchcraft in England were those of a woman and her 9-year-old daughter, in Huntingdon in 1716, and the last sufferer in Scotland perished at Dornach, in 1722. The laws against witchcraft were repealed in 1736. Burning was also the punishment for heretics, the Lollards and Protestants, the first victims of the heresy laws, perishing at the stake at London in 1401, and the last in Edinburgh in 1696. The mode of punishment by hanging was first adopted in England in 1241, in a case of piracy. This was the punishment meted out to common felons, murderers, forgers, and for all of the many offenses which the too rigid law judged deserving of death. Forgery was first made punishable with death in 1634, and it was not until 1837 that this crime was made a transportable offense only. The last person to be executed for it perished Dec. 31, 1829. It was not until 1861 that the punishment of death was restricted to high treason and wilful murder, though for many years the exertions of humane legislators had been abating the horrors of the old criminal code, which in 1824 made 223 offenses punishable with death. It is not generally known that



the most sanguinary period of the statute law of Great Britain belongs to comparatively modern times, for of the shocking number of Draconic statutes mentioned above, 187 were passed after the accession by Charles II. to the throne. Under these laws a petty theft of five shillings might be punished with death. And this matter grew worse with every decade until the frightful record produced such a revulsion of opinion in the intelligent classes against it that a revision of the criminal code was absolutely necessary. "In the seven years, from 1819 to 1825 there were 579 executions, and of the wretched criminals hanged less than one-fifth were murderers, the remainder being strangled for such crimes as burglary, cattle stealing, arson, forgery, issuing false notes, horse stealing, robbery, sacrilege and sheep stealing." It was long the custom to hang highway robbers and other atrocious offenders in a gibbet in chains near the place of their crime, and these bodies were suspended, as awful examples, and left there to rot away until at last the bleached bones fell asunder. This custom was abolished by statute in 1834. For some offenses the lifeless victim was taken down from the gallows and burned; the last instance, however, occurred in 1789. For many years it was the custom to surrender the bodies of all executed persons to anatomists for dissection, but this was abolished in 1832. The most heinous crime known to the law was, of course, treason. The list of offenses that have been decreed to partake of the nature of treason is too long and tedious to be given here; suffice it to say that all were supposed to imply disloyalty to the reigning sovereign. By the statute now in force an attempt or conspiracy to kill or depose the sovereign, to deprive him of his dominions or make war upon him, or any attempt to overthrow the government, is high treason. The punishment of this crime was formerly of the most revolting kind. Previous to 1790 men were hanged, cut down alive and disemboweled, and women were burned alive. By a law passed in that year, the sentence was commuted for women to simple hanging, for men to be hanged, then when dead the head severed from the body and the body cut into four quarters, the head and quarters to be at the disposal of the crown. Both men and women were to be dragged on a hurdle to the place of execution. The legal description of the above sentence was "to be hanged, drawn, and quartered," and this was the regulation sentence passed on every traitor until the repeal of the law in 1870. We do not think that it was carried into effect in any instance during the present century, being always commuted by the sovereign to simple beheading after hanging. The last use of the old sentence was in the conviction of the Cato street conspirators, as they were called—a gang of five desperadoes who had plotted to assassinate all the ministers of the crown at a cabinet dinner. They were arrested, the conspiracy was proved against them, and they were hanged and beheaded May 1, 1820. It has been asserted that this sentence was passed upon O'Farrell,

who attempted to kill the Duke of Edinburgh at Sydney, New South Wales, in the spring of 1868, but it is evident that this must be an error. The specifications defining treason according to English law in Chambers' Cyclopaedia do not include attempted murder of any of the royal family except the heir-apparent, and Haydn's Dictionary of Dates—a very accurate work—reports the conviction of O'Farrell as that of a murderer simply, and distinctly states that the execution of the Cato street conspirators was "the last execution for high-treason in England."

#### A ROMAN RELIC.

ONEIDA, Kan.  
Give an account of the stone taken from the wall around Rome, inscribed with the name of Servius Tullius, and sent to Abraham Lincoln. By whom and why was it sent, and where is it now?

CYRUS SHINN.

Answer.—Servius Tullius is said to have been the sixth king of Rome, and to have reigned from 578-538 B. C. His time antedated the period of authentic Roman history, but there is little doubt that he lived, and that he was, as tradition affirms, a just and worthy ruler, whose constant effort was to help and uplift the common people. He was himself of obscure origin, and his active sympathy with the lower classes excited the hatred of the wealthy Romans, and at last his son-in-law, Lucius Tarquinius, headed a conspiracy against him, and he was murdered by hired assassins in the streets of Rome in the year 538 B. C. He had built a stone wall around the city during his reign as a protection against the incursions of barbarian tribes. This wall was so well and firmly built that for 700 years it served its purpose effectually. Though now in ruins, it still bears the name of Servius Tullius. Before the sad death of President Lincoln completed the striking parallel between his history and that of the justice-loving king of Rome, some Roman patriots, in order to show their admiration of the noble character of the American President, and their appreciation of the likeness of his virtues to those of Servius Tullius, took a stone from the wall, where it had been placed 2,400 years before, had engraved upon it an inscription and sent it as a memorial to President Lincoln. The inscription, which was in Latin, is translated as follows:

"To Abraham Lincoln, President for the second time of the American Republic, citizens of Rome present this stone, from the wall of Servius Tullius, by which the memory of each of those brave asserters of liberty may be associated. Anno, 1865."

The stone is a conglomerate sandstone, 27½ inches long, 19 inches wide, and 8¾ inches thick. The lower edge and the side bearing the inscription are dressed true; the opposite sides show the uneven natural surface of a stone. The upper edge and both ends are broken as if with a hammer. It is not known when or by whom this stone was sent. Over a year after the death of President Lincoln, it was found buried among some rubbish in the basement of the Executive Mansion. The attention of President Johnson was called to it, and he caused diligent search to

be made through the papers of the White House, in the hope of finding some letter or document giving a clue as to how and when the stone came. Nothing at all connected with it was found, however, so all that is positively known of the history of the relic is the inscription which it bears on its face. It is thought that it arrived before the death of Mr. Lincoln, and he, to avoid a newspaper furore concerning it, quietly put it aside and said nothing about it. As no one in the mansion knew anything about it, there is little wonder that it came to be thrust among rubbish as a thing of no value. When it was found, in the spring of 1866, it was placed in the crypt of the basement of the Capitol. In June, 1870, a resolution was brought before the House of Representatives proposing to put the stone in the United States Botanical Gardens. Mr. Cullom, of Illinois, however, proposed to have it placed in the Memorial Hall of the Lincoln Monument, at Springfield, Ill., and supported his proposition with such convincing arguments that that it was adopted. The stone was sent to Springfield, and in August, 1871, was placed with many other relics of Mr. Lincoln in the memorial-room of the monument, where it is still to be seen by all visitors.

#### THE INVENTION OF THE MICROSCOPE.

Tell me something of the man who invented the first microscope.

MT. CARROLL, ILL.

T. A. MOYER.

*Answer.*—The discovery of the magnifying power of the simple lens was no doubt made long before the Christian era, as rude lenses of crystal have been found in Egyptian ruins, and it is known that the Greeks used magnifiers of glass, which they called "reading glasses." The invention of the compound microscope, however, is claimed for various persons. It is generally believed that the first one was made by Zacharias Jansen, of Holland, in 1590. Similar instruments were made at very nearly the same time by Fontana, in Italy. Cornelius Drebbel, an astronomer of Holland, exhibited a microscope in England in 1621. Pocket microscopes were first made by one Benjamin Martin, in London, about 1740. Great improvements have been made in this instrument during the last century by Dr. Wollaston, Professor Lister, Riddell, and others.

#### THE METRIC SYSTEM.

TAWAS CITY, MICH.

Give a full explanation of the metric system as adopted in France and Germany, applied to weights and measures, and give its equivalent in the measures and weights of the common system.

J. A. F. S.

*Answer.*—The metric system was adopted in France in 1795, but was not made compulsory there until 1840. Its use was legalized in England in 1864, and in the United States in 1866. By this system the unit of length is the ten millionth part of a meridional quadrant of the earth, called the meter; the unit of surface is the square meter; the unit of solidity is the cubic meter; the unit of capacity is the cube of a tenth part of the meter, called the liter; that of weight being the weight of that quantity of distilled water at its maximum density which fills the cube of the 1-100 part of a meter, called the

gram. Each unit has its decimal multiples and sub-divisions indicated by prefixes placed before the names of the several units. The prefixes of the multiples, derived from the Greek, are deca, ten; hecto, hundred; kilo, thousand; and myria, ten thousand. Those of the subdivisions are from the Latin, and are deci, tenth; centi, hundredth; and milli, thousandth. The equivalents of the metric units in the standards used in this country are as follows: Meter, 39.3707904 inches, or 3 feet 3 inches  $\frac{3}{8}$  sec. nearly; square meter, 1,550 square inches; cubic meter, 35.31481 cubic feet; liter, .908 quarts in dry measure, or 1.0567 quarts wine measure; gram, 15.432 grains avoirdupois. The value of multiples can be obtained by multiplying by 10, 100 and so on, and the subdivisions by dividing by these numbers.

#### CURLED AND BIRD'S-EYE MAPLE.

NEW LONDON, WIS.

Are the curled and bird's-eye maple the same? Is it a natural growth, and will a seed from one of these trees always produce the same kind? E. S. LOGAN.

*Answer.*—The cause of this appearance in maple wood is the contorted or serpentine growth of the fibers. Why the fibers of some trees should grow in this way, and others, of the same species, show perfectly straight-grained wood, is a problem which botanists have not yet solved. The curled maple is often produced in the common red maple, but more frequently in the hard or sugar maple. In the latter species only have we the peculiar growth that gives the bird's-eye maple wood, in which the fibers are so singularly contorted as to produce numerous little knots which look like the eye of a bird. The growth is apparently abnormal, but is by no means understood, as seed from the same tree will produce both the straight and the spiral-grained wood.

#### THE MOONS OF MARS.

PAW PAW, ILL.

Is it true that the planet Mars has two moons? If so, when were they discovered?

MRS. N. D. STEVENS.

*Answer.*—On the night of Aug. 11, 1877, Professor Asaph Hall, while viewing Mars through the great equatorial of the Washington Observatory, perceived a small object near that planet. Subsequent investigation showed that it followed the planet in its course, and reappeared at regular periods, thus showing conclusively that it was a true satellite of the planet. While taking observations of this, Professor Hall also discovered another moon much nearer to the planet, and the paths of these two moons have since been traced, their distance from Mars and their times of revolution computed, and they have been named by astronomers, the inner Phobos, the outer Deimos. The outer satellite revolves around the planet in 30 hours 18 min.; the inner one in 7 hours 39 min. The latter is the shortest period yet known among the revolutions of the heavenly bodies. The distance of the inner moon from the surface of Mars is less than 4,000 miles, and supposing these two bodies were each inhabited, the dwellers on the one might with the help of a telescope—supposing they both have telescopes—obtain a thorough knowledge of the affairs and movements of those on the other. These satellites



are the smallest heavenly bodies yet discovered. As they show as mere points of light in the telescope it is impossible to make a numerical estimate of their diameters. But by comparing the light that they give with the light of the planet Mars, it is estimated that the outer moon has a diameter somewhat less than twenty miles, the inner moon between thirty and forty miles.

#### THE STANDARD SILVER DOLLAR.

WOODVILLE, Ind.  
Give a condensed history of the silver dollar, times of coinage, weights, etc. J. C. Cole.

*Answer.*—The coinage of the standard silver dollar was first authorized by act of April 2, 1792. Its weight was to be 416 grains standard silver; fineness, 892.4; which was equivalent to 371½ grains of fine silver, with 44¾ grains of pure copper alloy. This weight was changed by act of January 18, 1837, to 412½ grains, and fineness changed to 900, thus preserving the same amount of pure silver as before. By act of Feb. 12, 1873, the coinage was discontinued. The total number of silver dollars coined from 1792 to 1873 was 8,045,838. The act of 1873 provided for the coinage of the "trade dollar," of weight 420 grains, and an act passed in June, 1874, ordered that all silver coins should only be "legal tender at their nominal value for amounts not exceeding \$5." The effect of these acts was the "demonetization" of silver, of which so much has been said. Feb. 28, 1878, the coinage of the standard dollar of 412½ grains was revived by act of Congress; \$2,000,000 per month was ordered coined, and the coins were made legal tender for all debts, public and private. From February, 1878, to Nov. 1, 1885, 213,257,594 of the standard dollars were coined under the above act.

#### TWENTY-FIFTH OHIO BATTERY.

TWIN LAKE, Col.  
Give a brief sketch of the Twenty-fifth Battery of Ohio Artillery. C. L. WILLIS.

*Answer.*—Aug. 27, 1862, the Second Ohio Cavalry, then in the army of the frontier, was stationed at Fort Scott, Kan. The Commander, General Blunt, was greatly in need of artillery, and a detail of thirteen men was made from each company of the Ohio regiment, who were organized into a battery, under the command of Captain Stockton, of the First Kansas Infantry, and called the Third Kansas Battery. This battery took part in the various fights on the Kansas border that year—Newtonia, Kane Hill, Prairie Grove, and Van Buren. In the first week of 1863 it returned, by tedious marches over rough roads to Missouri, going into camp at Crane Creek. Jan. 22 an order from the War Department made this organization a permanent Ohio Battery, and under this order it was organized as the Twenty-fifth Ohio Battery, Feb. 17, 1863. During the months of March and April it took part in the march in pursuit of Marmaduke through Arkansas, returning in May to Rolla, Mo., where it was thoroughly refitted, its old smooth-bore guns being exchanged for rifled cannon. In June it was again ordered southward, and during the summer took part in the further operations in Arkansas against Marmaduke and Price. It did effective duty in the attack on Little Rock, and

during the remainder of the year was engaged in that vicinity, taking part in various minor fights with the rebels. Jan. 20, 1864, the battery was mustered into the veteran service, 112 men out of 129 re-enlisting. After a brief furlough for the men the battery was placed on duty at Fort Steele, and in the fall was again transferred to Little Rock, where it remained until the last organized force of rebels had surrendered in the fall of 1865. Dec. 12, 1865, it was mustered out and discharged at Columbus, Ohio. During its term of service the battery participated in thirteen battles and skirmishes, and marched 6,351 miles.

#### U. S. DOMAIN—GADSDEN PURCHASE.

OSHLAN, Iowa.  
What territory has the United States acquired by purchase and treaty? What was the Gadsden purchase. IDA OXLEY.

*Answer.*—By treaty with Great Britain at the close of the Revolutionary war, the United States then extended from the Atlantic Ocean to the Mississippi River, and from the great lakes to the southern border of Georgia. The Louisiana purchase from France in 1803, included all the territory west of the Mississippi River, except what is now comprised in Oregon, California, Texas, Arizona, and Alaska. The Florida purchase from Spain in 1819, included the State of Florida and southern portions of Alabama and Mississippi. Texas, which was an independent republic of Mexico, was admitted at her own request, in 1845. Oregon was held jointly by the British and United States governments under the treaty of 1818—it having been previously claimed by both countries—and was made wholly United States territory by treaty with Great Britain in April, 1846. California, Utah and Nevada, and part of Arizona were ceded by Mexico at the close of the Mexican war in 1848, and by treaty with Mexico, five years later, the territory lying between the Gila River and Mexico was purchased. Alaska was gained by purchase from Russia in 1867. The original area of the United States comprised 815,615 square miles. The acquired area is 2,862,772 square miles. The Gadsden purchase is the name applied to the land bought from Mexico in 1853, because its transfer was negotiated by General James Gadsden, who was United States minister to Mexico when the purchase was made. It includes a strip of land extending from the Rio Grande del Norte, near El Paso, westward about 500 miles to the Colorado and the border of Lower California, and from the Gila River to the border fixed by the treaty. Its greatest breadth is 120 miles, and its area 45,535 square miles.

#### DIVISIONS OF LAW.

CHICAGO.  
Point out the differences between common, civil, and criminal law. How many kinds of law are there? A. H. S.

*Answer.*—Law, or the whole body of jurisprudence, may be regarded as composed of a number of branches, or divisions, each including the appointed rules of certain departments of human action. Each of these may be considered as partaking, more or less, of the others, on account of the interdependence of human life and its various duties. What is known as civil

law is the ancient Roman code—upon which the jurisprudence of all civilized nations since the time of Rome has been founded—with the modifications of this law which have been made in different countries. Common law includes those rules which derive authority from long usage or established custom, and which have been, from time immemorial, received and recognized by judicial tribunals. As this law can not be traced to positive statutes its rules or principles are to be found only in the records of courts and of judicial decisions. Statute law is that law which is embodied in written statutes or the enactments of legislative bodies. Criminal law is that branch of law which relates to crimes, and is partly statute and partly common law. International law is the code of rules regulating the intercourse of nations or states, these rules being enacted by no power, but founded on customs, compacts, and treaties between nations. Then there is canon or ecclesiastical law, rules prescribed for the government of the church; also marine law, the code of regulations relating to affairs of the sea, shipping, navigation, etc.; and military law, rules ordained for the government of the army of a state, equally in peace and war, and administered by courts martial. Military law must not be confounded with martial law, which is an arbitrary code that proceeds directly from the military power and has no immediate constitutional or legislative sanction. It is founded on paramount necessity, includes all matters of civil or criminal jurisdiction and is never used except in time of war, rebellion, or similar great and serious emergency. Whenever it is imposed on any district or state, all the inhabitants, old and young, and both sexes alike, and all their actions, however trivial, are brought within its dominion.

#### NAPOLEON AT ST. HELENA.

COLONNA, Mich.

Give an account of the treatment Napoleon received from England during his captivity. What privileges were granted him, and how did he pass his time at St. Helena?

A READER.

*Answer.*—Napoleon, when he surrendered himself to the British, expected to be treated by them as a distinguished guest, and, no doubt, cherished strong hopes of being able to regain some of his lost power through the friendship of that nation, which he called "the strongest and most generous of his foes." Great Britain, on the other hand, was not a little perplexed at first as to what should be done with her distinguished acquisition. The case was without precedent, and all the able lawyers of the country were consulted by the State Department for advice concerning it. The conclusion finally was, after full deliberation, that the ex-Emperor should be regarded as a prisoner of war. When he learned that in this character he was to be confined on a desolate island for the rest of his life it is not surprising that his rage and disappointment were too great to be mollified by any degree of consideration in minor matters, for he was treated very well for a prisoner. The instructions of the government to Admiral Cockburn, who conveyed Napoleon to St. Helena, distinctly ordered that no more so-

verity should be used with respect to confinement and restraint than was necessary for keeping him secure. He was to be permitted by these instructions to take with him to his island prison all furniture, books, and wine that he or the members of his suite might desire, including plate for domestic use; but money, diamonds, and negotiable bills were to be surrendered to his captors, this property to be applied to his maintenance, however, and used as he might request. As it happened, however, when the ex-Emperor and his personal attendants, twenty-five in number, came on board the British ship, the exchequer which they collectively yielded into the Admiral's keeping was so small that it was hardly worth mentioning, while as to furniture, etc. they had none of it, and it became necessary for their captors to supply all of their necessities. When on the island, the rules governing the actions of the illustrious prisoner were very strict. He was compelled to take all his exercise, walking or riding—for the British government gave him a carriage and horses—within certain bounds, marked by a guard of sentries. All the letters that he wrote or received were first to be examined by the governor of the island. Two British ships-of-war were always kept at anchor near the island, and on the appearance of any strange ships a double guard of sentries was immediately placed around Napoleon's residence. These restrictions were very galling to the fallen ruler, and he chafed under them continually. But most degrading of all was the fact that he was not allowed to retain the title of emperor. General Bonaparte was the only title which the British Government would accord to him, and by this he was referred to and addressed. When Montholon, his devoted friend, wrote to the governor to express some wish of the "emperor," the reply invariably was that the authorities "knew of no emperor on the island," but if General Bonaparte wished anything they would endeavor to gratify him. This question of the title was a never-ending source of irritation and dispute, and while it existed every small annoyance was unduly magnified by the prisoner. There is no doubt that the governor, Sir Hudson Lowe, did his best to insure all reasonable comfort to his charge, but everything that he did was a source of complaint, and every interview ended in a quarrel. Napoleon's time while at St. Helena was largely spent in dictating his memoirs to General Montholon, and in conversing with his attendants about his past career. He lived five years and a half after landing on St. Helena.

#### THE HOT WATER WAR.

MENELON, Mich.

Who was John Fries, referred to by Webster in his reply to Hayne, and what did he do?

S. H. GOODWIN.

*Answer.*—After Secretary Hamilton had succeeded in his plan of levying a direct tax on ardent spirits, and the overthrow of the "whisky insurrection" had shown that the Federal Government was strong enough to enforce even unpopular laws, the scope of the direct tax was enlarged, and included, among other things, houses. These were classified according to their dimensions and ornate structure, and the tax graded



accordingly, so that it really bore very lightly upon poor people. However, the popular sentiment was very strongly opposed to direct taxation. The people had fought King George and his taxes seven years and won their point, and they could not readily submit to what some considered similar impositions on the part of the Federal Government. In Pennsylvania, where the people had not become at all reconciled to their defeat on the whisky tax question, the opposition to the house tax was most pronounced. Among other means for making the required classification of the houses, the law required a measurement of the windows. But when the officers went with tape-lines to take these dimensions, they met with such violent opposition, especially in the German communities of Northampton, Bucks, Montgomery, and adjoining counties, that they were obliged to desist. Enraged housewives flew to front doors and upper windows and deluged the luckless officials with boiling water, causing them to retreat "in hot haste." From the part taken in this outbreak by women it was commonly known subsequently as "the hot-water war." Opposition increased, and still further violence was offered the Government officials. Warrants were then issued from the district court of Pennsylvania against the rioters, and the United States marshal arrested some thirty persons; but in the village of Bethlehem he was set upon, and his prisoners were rescued by an armed band of fifty horsemen, headed by a man named John Fries. This was on March 7, 1799. President Adams immediately issued a proclamation requiring submission to the laws. Governor Mifflin called out a body of militia and sent it into the disturbed counties. The commanding officer issued an address to the inhabitants showing how little they had to complain of; that the money was needed by the National Government, and the law was so arranged as to favor the poor, the ratio of the tax being far greater upon expensive houses. No opposition was made to the troops, and John Fries and thirty others were arrested and taken to Philadelphia. Fries was indicted for high treason, tried, and convicted. He was sentenced to be put to death, and a number of his companions were found guilty of misdemeanor and condemned to imprisonment. President Adams, however, not long after granted to all of the convicted a full and free pardon. When Thomas Jefferson became President, in 1802, the obnoxious direct taxes were all abolished, and the "house tax" and the "hot-water war" were soon relegated to the wide limbo of forgotten history, or that which was only remembered with a smile.

#### ISAAC ADOLPHE CREMIEUX.

CHICAGO.  
Give a sketch of the French lawyer Cremieux.  
L. Z. WALLERSTEIN.

*Answer.*—Isaac Adolphe Cremieux was born at Nîmes, France, April 30, 1796. He was the son of Jewish parents, was liberally educated, and having studied law, was admitted to the bar of his native town in 1817. He removed to Paris about 1830, and there, by his eloquence and

boldness in defending certain Republicans prosecuted by the government, he won great popularity and reputation. In 1842 he was elected to the Chamber of Deputies, in which he acted with the radical party (Extreme Left). On the abdication of Louis Philippe, in February, 1848, Cremieux declared in favor of a republic, and was made Minister of Justice under the provisional government. He retired from office in June of the same year, and exerted his influence in favor of the election of Louis Napoleon as President, but returning to the Legislative Assembly was soon conspicuous among the President's opponents. He was one of the members arrested at the time of the coup d'état, but was soon liberated, when he withdrew from politics and took no more part in public affairs until the fall of 1869, when he was elected to the Legislature. When after the surrender of Napoleon at Sedan the government of national defense was formed, Cremieux was made Minister of Justice. He was made Senator for life Dec. 15, 1873. He died Feb. 10, 1880.

#### L. O. G. T.—SONS OF TEMPERANCE.

CRAIG, Neb.  
Give a brief history of the Independent Order of Good Templars, and of the Sons of Temperance.  
E. B. GIBBS.

*Answer.*—The Independent Order of Good Templars was organized at Utica, N. Y., in 1851. Its first name was "Good Templars" only. The Grand Lodge of New York was instituted Aug. 11, 1852, and the order spread rapidly thence into many other States, and into Canada. The first lodge in England was formed at Birmingham, in May, 1868; the first in Scotland at Glasgow in 1869. There were in 1874, in the United Kingdom of Great Britain and Ireland, including the colonies, 3,743 lodges and 211,255 members. In the United States and a few foreign places, exclusive of England, there were, Jan. 31, 1880, 5,965 lodges, and 254,993 members. There are 64 Grand Lodges in the United States and Great Britain. No restriction is placed on membership of this society, children as well as women being admitted. The society has no beneficiary system, but it has a liberal financial basis, and its secrecy is guarded by quarterly passwords obtainable only on the payment of dues. The subordinate lodges hold weekly meetings, the district lodges, composed of delegates from the subordinate lodges, meet monthly or quarterly; the supreme representative body, or the International Grand Lodge, meets tri-ennially. Each State, kingdom, or other political division has its right worthy grand lodge which meets annually and elects representatives to the supreme body. It is estimated that since its origin fully 3,000,000 persons have become members of this order.

The order of the Sons of Temperance is usually regarded as the parent of the Order of Good Templars. The former was first organized in New York, Sept. 29, 1842. It was at first a benefit society, founded on abstinence from intoxicating liquors. The initiation fee was \$1, and the dues 6¼ cents per week. If sick the members received \$4 per week, and in case of death \$30 was allowed for funeral expenses.

This feature of the society was afterward given up. The Sons of Temperance have one grand division in this country, and subordinate divisions that extend all over the country. By its latest report its strength is given as thirty-six grand divisions, 1,156 subordinate divisions, and 47,715 members.

#### THE GERMAN CHANCELLOR.

**HILLSDALE, Ill.**  
Tell something about the office of Chancellor in Germany. Is it elective? What are its duties and prerogatives, and how are they limited?

**JOHN ROE.**

**Answer.**—The Chancellor of the German Empire is appointed by the Emperor, and holds his office during that potentate's pleasure. He is, by virtue of his office, President of the Bundesrath, or Federal Council. The members of this body, which is the upper House of the Legislative Assembly, are appointed by the government of the States. By the German constitution all legislation must originate in the Bundesrath, but all laws, in order to pass, must receive an absolute majority of votes in the Bundesrath and in the Reichstag, or House of Representatives. As the Chancellor is naturally the leader of the dominant party in the Bundesrath, he may be supposed to have much influence in the Legislative Assembly aside from his administrative functions. All measures, when they have passed both Houses, must receive the approval of the Emperor to become laws, and be countersigned and promulgated by the Chancellor. The chancellor is also the head of administration for the empire. The Federal Council performs the functions of a cabinet as well as those of a senate, and under the direction of the Chancellor acts as a supreme administrative and advisory board, and as such is divided into nine standing committees, viz.: For army and fortresses; for naval purposes; for tariffs, excise, and taxes; for trade and commerce; for railways, posts, and telegraphs; for civil and criminal law; for financial accounts; for foreign affairs; and for Alsace-Lorraine. The present chancellor is chairman of the committee on foreign affairs. The various administrative offices, the chancery office, the foreign office, the post and telegraph office, etc., are entirely separate from the Assembly. All of them, however, are under the Chancellor of the empire, or are separately managed under his responsibility, and in these departments his rule is absolute, unless interfered with by the Emperor.

#### TEACHING DEAF-MUTES TO READ.

**MILFORD, Iowa.**  
How are children that are born deaf and dumb taught to read?

**B. T.**

**Answer.**—Instruction is conveyed to deaf-mutes in most instances by the use of sign language, or the manual alphabet. The foundation maxim of the methods used is "first ideas, then words." The mind must be roused to activity, and, as the foundations of knowledge which other children acquire by the aid of hearing are here wanting, progress is, of course, very slow at first. Usually, instruction is begun by the word method, words being connected with the objects they represent. For instance, the child is shown some common object, or a

picture of an animal, and the printed name of the object or animal is shown him at the same time. He is thus taught to connect names with their objects and to recognize printed words. When a few words have been learned, sentences are framed, and the child is taught to recognize these as units embodying a complete idea. The printed and the sign alphabets are taught together and, when these are mastered, instruction in spelling is not difficult. After names of objects, their obvious properties, with numerals and verbs of action, are next taught. The adjectives first brought forward are those of size and color, then prepositions of locality. The simple tenses are exemplified by calling attention to a series of actions. Much use is made of contrast of ideas. A child of 10 or 12 years of age, if possessed of ordinary intelligence, can usually, at the end of a year, construct for himself simple sentences about every-day affairs. During the first two or three years text-books prepared especially for deaf-mutes are used, after that any text-books will serve. Another method of teaching deaf-mutes, by lip-language or visible speech, is described in Our Curiosity Shop book for 1885.

#### THE RUSSO-AMERICAN TELEGRAPH.

**ATLANTA, Ga.**  
Give some account of the explorations of Kennan in Siberia, and his mode of travel.

**L. M. P.**

**Answer.**—The name of Mr. George Kennan is inseparably connected with the Russo-American Telegraph, an enterprise which, though thwarted and rendered unsuccessful by circumstances, deserves to be recorded as one of the most remarkable undertakings of the century. Mr. Kennan was one of the small company which spent two years prospecting for the telegraph line through the wilds of Siberia, and in his book, "Tent Life in Siberia," he has given a most graphic and entertaining account of the difficulties and labors of the expedition. The Russo-American Telegraph Company, or, as it was more properly called, the "Western Union Extension," from its connection with the Western Union Telegraph Company, was organized at New York in the summer of 1864. The idea had first been proposed by Mr. Perry Collins, who made a trip across Northern Asia in 1857, but it was never seriously entertained until the failure of the first Atlantic cable. Mr. Collins submitted his plan to the Western Union Company in 1863. It proposed to run a line through British Columbia, Russian America, and Northwestern Siberia, down to the mouth of the Amoor River, where it should connect with the Russian lines, and had the advantage of needing no long cables, as it could run overland through its whole extent, except for a short distance at Behring's Straits. In August, 1864, Colonel Bulkley, an officer prominently connected with the work of military telegraphy during the war, was appointed engineer-in-chief of the proposed work, and went out to San Francisco, where all preparations in fitting out vessels, etc., were to be made. The Russian and British governments had agreed to forward the work by co-operation. Two parties were to work in British Columbia and Russian America, and the third was to operate in Siberia.



Preparations were slow, and the company's vessels were not ready for sea until June, 1865. At that time it was decided to divide the Siberian party, sending some of them to the mouth of the Anadyr River, on the north coast, and the others in a Russian vessel to Kamtohatka. Among the latter company, which was the first to start, was Mr. Kennan. These were landed at Petropavlovski, on the Kamtohatkan coast, and thence they journeyed on horseback to the head of the Kamtohatka River. They went down the river 250 miles on rafts to Kloochoy, in log canoes up the Yofofka River to the Yofofka Pass, where they crossed the mountains on horses to Tigil, and in the same way journeyed up the west coast to Lesnoi. The long arctic winter had now begun, and they continued their explorations on sledges, part of the time drawn by reindeer, but principally by dogs. They reached Geezhega, an important Russian settlement, Nov. 25. In spite of the severity of the weather the surveying work was mainly carried on in the winter, as the moss tundras are quite impassable in the summer season. In the spring of 1866 the whole exploring party, seven in all, met at Geezhega, after having gone over the entire route of the proposed telegraph from Anadyr Bay to the Amoor River. In seven months these fearless adventurers had traveled an aggregate of almost 10,000 miles. In June vessels arrived with supplies, and native laborers were set to work cutting poles for the telegraph along the Anadyr and other rivers. This work was carried on during the entire year, and in the spring of 1867 about 900 men were thus employed. In June, however, word was received that the Atlantic cable was a complete success, and the overland line to Russia was abandoned. The Western Union Telegraph Company had already sunk \$3,000,000 in the enterprise, but as it never could be made to pay in competition with the Atlantic cable, the scheme was given up, the laborers paid and discharged, and the laborious and courageous surveying party recalled to take part in other duties. The reader anxious to get a vivid idea of the people of Siberia, and the peculiarities of dog-sledge travel, can not do better than read Kennan's account of this expedition.

#### CELIBACY IN THE ROMISH PRIESTHOOD.

TARA, IOWA.

Did the priests of the Roman Catholic Church ever marry; if so, when did they cease to do so, and for what reason?

JOHN FLAHERTY.

*Answer.*—In the primitive Christian Church the state of celibacy began to be extolled as holier than matrimony as early as the second century. The early fathers especially commended it, and cited the example of St. Paul as showing that it was, for the clergy, the better condition. Still there was no law or uniformity of opinion on the subject, and it was not until the fourth century that even the higher clergy began generally to live in celibacy. Near the close of this century Pope Siricius forbade all priests to marry, and all who had married previous to ordination were commanded to put away their wives. The council of Tours, in 566, ordered that all priests and deacons who persisted in retaining their wives

should be suspended from office for a year, and the Emperor Justinian declared all children born to a clergyman after his ordination to be illegitimate and incapable of inheritance. The Eastern Church, on the other hand, always opposed this doctrine, and the council of Constantinople, in 692, condemned it as heretical. The orthodox Greek Church has therefore always sanctioned the marriage of priests. The opposite doctrine, however, was only established in the Romish Church after many orders and interdictions, extending over several centuries. At last, in the eleventh century, it was ordered that any priest living with a wife should be excommunicated. Even this not being regarded as sufficient, Pope Gregory VII finally carried the point by deposing all married priests, and excommunicating all laymen who upheld them in the exercise of their spiritual functions. This decree met with violent opposition in all countries, but Gregory succeeded in carrying it out with the utmost rigor, and thus the celibacy of the Roman Catholic clergy was at last established, and has since continued, both in theory and practice.

#### THE MAY LAWS.

NEWPORT, Ind.

What are the May laws of Germany? When were they passed, and why are they now to be revoked?

M. L. HALL.

*Answer.*—The May laws were passed by the Prussian Parliament in May, 1873, and received their name from the month of their enactment. These laws were four in number, and were the culmination of a series of attacks by Prince Bismarck on the power of the Vatican. The trouble began in 1871, when the Prussian government interfered to prevent the removal from office of the clergy who had been excommunicated for rejecting the dogma of the papal infallibility. In July, 1871, the Prussian government further decreed the abolition of the Roman Catholic department of the ministry of worship and education, and soon followed this with a law transferring to the civil authority the supervision of all private and public schools. In the spring of 1872 the Pope declined to receive Cardinal Hohenlohe as the German ambassador at the Vatican, and Prussia retaliated by expelling the Jesuits and other religious orders from the country. It was evidently the object of the Prussian authorities to make the breach with the Vatican as wide as possible, as was shown by the tenor of the May laws—also called the Falk laws, from the minister who introduced them—promulgated the following spring. The first of the laws provided that ecclesiastical punishment for religious offenses should not convey or be accompanied by social or civil penalties. The second enacted that candidates for ecclesiastical offices should receive their education in the public gymnasiums and universities. The third prescribed the steps to be taken by those who wished to leave any church, while the fourth established a royal court for the settlement of ecclesiastical questions. In 1874 Bismarck added three similar laws to these, two of which provided for the details of the appointment of ecclesiastical functionaries

by the state. The third was an enactment of the Reichstag for the whole German Empire, and authorized the imprisonment or expulsion of any clergyman who persisted in carrying on the duties of his office after his removal by the civil authorities. The Reichstag further passed, in 1875, a law making civil marriage obligatory and authorizing the marriage of the Roman Catholic clergy. The object of all these enactments was to render the power of the church nothing and that of the civil authority everything. The Pope protested vigorously against these laws, but in vain, and at last declared them invalid and forbade obedience to them. In return, Prussia declared through her Parliament that those members of the clergy who would not promise obedience to the laws could not receive their stipends or salaries. The instigator of all this opposition to ecclesiastic authority was of course Bismarck, but of late years the Chancellor's attitude toward the Roman Catholic Church has changed. Now he needs the power of the church to aid him in his struggle with the socialists, and he is as anxious to abolish the May laws as he was several years ago to introduce them.

#### THE SCREW.

Give a history of the origin of the screw, one of the six mechanical powers. CHICAGO.  
T. N. SWARTOUT.

*Answer.*—It is not clearly known how far the mechanical powers were known to the ancients. There is no doubt that they comprehended the lever, the wheel and axle, and the pulley, and an acquaintance with the principle of the inclined plane seems to have been necessary to the Egyptians in moving the huge blocks of stone of which the pyramids are built. Archimedes, about 236 B. C., invented a pumping-screw, or spiral-shaped cylinder, for raising water. The writings of this mechanician and philosopher form the clearest index we have to the extent of knowledge of his time, and, indeed, his own intelligence was so far ahead of that of his contemporaries that much of his reasoning was not fully established as part of the world's stock of knowledge until centuries after his death. Apparently Archimedes did not understand the inclined plane, for he makes no direct mention of it, and we have no evidence to show that it was included in the knowledge of mechanics possessed by the Romans. The true discovery of the use of the inclined plane dates from the latter part of the sixteenth century, when the minds of men were just awakening from their long sleep during the dark ages. The discovery is generally ascribed to Galileo, but Stevinus, one of his contemporaries, a mechanician of Holland, was the first to explain in a treatise the true theory of the power. The screw is an application of the inclined plane, as may be seen by winding a triangular piece of paper around a cylinder. The screw and the wedge are alluded to by more than one writer of the sixteenth century, showing that a knowledge of these secondary powers formed a part of the revival of physical science in which Galileo took a most important part, if he did not wholly inspire it. The principle of the screw propeller

was first enunciated by Hooke in 1681, though it was not successfully applied to the movement of vessels until the nineteenth century. The first use of the screw was in the screw-jack for raising heavy weights. The various modifications and applications of this power belong to the era of mechanical discovery in the present century.

#### THE JULIAN EMPERORS.

Who were the Julian Emperors of Rome? CHICAGO.  
L. B.

*Answer.*—The five emperors who reigned in Rome from 31 B. C. to 68 A. D. are sometimes spoken of as the five Julii, or the Julian Emperors. The first of these was Cæsar Octavianus Augustus, who was the grand-nephew and adopted son of the great Julius Cæsar. He had no sons, and adopted two sons of his daughter Julia as his successors. These, however, died, and Augustus then adopted Tiberius, the eldest son of his third wife, Livia, by a former husband, who succeeded to the throne in the year 14 A. D. Tiberius was followed at his death in the year 37 by Caligula, the grandson of his brother Drusus, and the son of Agrippina, a granddaughter of the Emperor Augustus. When this ruler was murdered in 41 his father's younger brother Claudius was proclaimed emperor. The mother of Claudius had been a niece of Augustus. The second wife of Claudius was Agrippina, a sister of Caligula. This woman persuaded the Emperor to disinherit his eldest son, and adopt as his successor Nero, her son by a former husband. As he showed signs not long after of repenting of this action Agrippina poisoned him, and Nero came into power in the year 54, and reigned until driven from the throne in 68.

#### SEMI-RAMUS—THRASYMENUS.

MULVANE, Kan.  
1. Tell us something about Semiramis. 2. What were Hannibal's Numidian Cavalry armed with? 3. When and where was the battle of Thrasymentus fought?  
R. A. HALL.

*Answer.*—1. The legendary Semiramis is described by the historian Otesias as the wife of Ninus, the founder of the Assyrian Kingdom, who flourished about 2200 B. C., and as a woman of great beauty and military prowess, who survived her husband, ruled the kingdom for some years with much ability, and finally abdicated in favor of her son Ninias. This story is now believed to be purely mythical. The true Semiramis, however, according to Rawlinson, was the wife of Vul-Lush, an Assyrian king who ruled from 810 to 781 B. C. She was a Babylonian princess, and the union was sought by the Assyrian ruler to strengthen his claim to the provinces of Babylon. She seems to have enjoyed with her royal husband a sort of co-sovereignty in the government, and from this fact it is thought the legends concerning her great conquests, etc., had their origin. Nothing is certainly known of her life or works. 2. The Numidian cavalry were armed with swords. 3. Thrasymentus was the ancient name of an Italian lake lying between the towns of Cortona and Perugia. On the shores of this lake the Carthaginians, under Hannibal, in 217 B. C., during the



second Punic war, won a great victory over the Romans under their Consul, Flaminius. Hannibal was marching southward toward Rome, laying waste the country as he went, and purposely passed near the Consul's camp at Arretium. As he desired, the Romans immediately left their encampment and followed him. He made his way into the valley of this lake, which is surrounded on every side by hills. When the Roman army entered the valley the Carthaginians surrounded and attacked them on all sides, and a fierce battle followed in which 16,000 Romans are said to have been killed or drowned in the lake.

#### COINS OF THE UNITED STATES.

ARLINGTON HEIGHTS, ILL.

Give an account of the coins of the United States, from the earliest colonial times down to the present, with their denominations, devices, and dates.

E. B. W.

**Answer.**—The earliest coinage for America is said to have been made in 1612 for the Virginia Company, on the Bermudas, then known as Somers Islands. The coin was of brass, and is described as having "a hogge on one side, in memory of the abundance of hogges which were found on their first landing." On the reverse was a ship under sail firing a gun. As early as 1645 the Assembly of Virginia, having no currency then but tobacco, provided by law for a copper coinage, but the law was never carried into effect. In Massachusetts the general court passed a law, May 27, 1652, establishing a "mint house" at Boston. This was authorized to coin silver pieces of the value of 3 pence, 6 pence, and 12 pence. At first the coins were struck with simply the letters N. E. on one side, and on the other the value of the coin in Roman numerals. When the coins were put in circulation it was found that because of the excessive plainness of their finish they were greatly exposed to "washing and clipping." To remedy this, it was ordered that the coins should thereafter "have a double ring on either side, with the word Massachusetts and a tree in the center on the one side, and New England and the date of the year on the other side." In 1662 a two-penny piece was added to the series. Those coins became known as "the pine-tree" coins. This mint was in existence thirty-four years and no doubt coined some money every year, but during the entire time used only two dies, bearing the dates 1652 and 1662. During the following hundred years both copper and silver coins were made in England for the use of the colonies. In the reign of George I, the King granted permission to an English speculator to coin brass shillings for use in Ireland and the colonies. This was what was known as "Wood's money," but so great was the general objection to it that it never could be put in circulation. From 1778 to 1787 the power of coinage was exercised not only by the Confederation in Congress, but also by several of the individual States. In Rupert, Vt., a mint was established by legislative authority in 1785 and copper cents issued, described thus: "Obverse, a sun rising behind hills and a plow in the foreground—legend, 'Vermontensium Res Publica, 1786:'

reverse, a radiated eye surrounded by thirteen stars—legend, 'Quarta Decima Stella.'" In 1788 there was another cent authorized having: "on the obverse a head, with the legend 'Auctoritate Vermontensium,' and on the reverse a woman with the letters 'Inde et Lib.'" A few half cents were also coined at the Vermont mint. In 1785 Connecticut established a mint at New Haven, and sixpenny copper coins were issued, "having on the obverse a head, 'Auctori Connec.;" reverse, a female figure holding an olive branch, with the legend 'Inde et Lib 1785.'" In 1786 New Jersey established two mints, one near Morristown and the other at Elizabeth. The coins were copper cents, thus described: "Obverse, a horse's head with a plow beneath—legend, Nova Cæsarea, 1786;" reverse, a shield—legend, 'E Pluribus Unum.'" Massachusetts authorized a copper coinage in 1786, and works were erected the following year at Boston Neck and at Dedham. In 1788 cents and half-cents were issued, showing on the obverse "the American eagle with arrows in the right talon and an olive branch in the left, a shield on its breast bearing the words 'one cent' or 'one-half cent'—legend, 'Massachusetts, 1788;' reverse, an Indian holding a bow and arrow—legend, 'Commonwealth' and a star." A plan for an American coinage was discussed as early as January, 1782, but no decisive action was taken until 1785. In that year the plan of a National coinage presented by Thomas Jefferson was adopted, and in 1786 an ordinance for the establishment of a mint was passed, but the coinage was not begun until 1792. In the meanwhile Congress contracted with certain parties for the coinage of 300 tons of copper coins, which were coined at the New Haven mint. These were described as follows: "On one side thirteen circles linked together, a small circle in the middle with the words United States around it, and in the center the words, 'We are one'; on the other side, a sun dial with the sun above it, and 'Fugio, 1787,' on opposite sides, and below the dial the words 'Mind your business.'" The coins as authorized by the mint laws of 1792 were: The eagle, half eagle, and quarter eagle of gold; the dollar, half dollar, quarter dollar, dime, and half dime of silver, and cent and half cent of copper. The designs need not be described, as they were the same as those still used. By the act of March 3, 1842, the double eagle and the dollar were added to the list of gold coins, and by act Feb. 21, 1853, the three-dollar gold piece was also authorized. The three-cent silver piece was first coined under the act of March 3, 1851. By the act of Feb. 21, 1857, the copper cent and half cent were discontinued and a new cent, composed of 88 per cent of copper and 12 per cent of nickel, was substituted, which continued to be coined until the act of April 22, 1864, provided for the coinage of the bronze cent, having 95 per cent of copper and 5 per cent of tin and zinc. The same act provided for the coinage of 2-cent pieces, and March 3, 1865, a 3-cent coin, three-fourths copper and one-fourth nickel, was authorized. The act of May 16, 1866, provided for the coinage of a 5-cent

piece, also three-fourths copper and one-fourth nickel. The many changes in our coinage laws have mainly affected the weight and fineness of the coins, and need not here be enumerated. The motto "In God We Trust" was first placed upon the 2-cent piece of 1864, and it was at the same time provided that this motto should be added to the devices of the other coins "whenever practicable."

#### THE SANTA FE TRAIL.

MOPHERSON, Kan.

Give a history of the old "Santa Fe Trail."

H. B. KELLY.

*Answer.*—Long before the Mayflower cast anchor off "the stern and rock-bound coast" of New England, adventurers from Spain had penetrated into the heart of the New World, and built the city of Santa Fe. The descendants of the Pilgrims, pushing into the interior of the country from the East, knew nothing of the existence of these neighbors, still less of any way of reaching them, until the opening of the nineteenth century. When the Saxon pioneers had penetrated to the Mississippi, however, rumors began to reach them of a city far to the West. It is said that a man started from Kaskaskia, Ill., in 1804, to make his way to the Spanish city, but he never returned, and it is supposed that he perished in the wilderness. In 1806, that fearless explorer of the West, Zebulon M. Pike, started in the same direction and traveled some 200 miles. Satisfying himself that it was quite possible for an expedition to make its way through the country, he returned and fitted out a train of pack-horses with goods, which in 1812 was taken through to Santa Fe by four men. The advent of these strangers did not greatly please the Spaniards, who seized and put them in prison. They were at last released and returned to Illinois in 1821. The following year marked the opening of the trail throughout its length for travel. At first pack-horses only were used; in 1824 wagons were put on, and mules were generally used on account of their great powers of endurance. The starting point at first was Franklin, 250 miles west of St. Louis, then was changed to Independence, and still later to Westport. The wagon trains usually started in detached parties, which rendezvoused at Council Grove, on a branch of the Neosho River, where they organized for mutual aid and protection. The train would be separated into divisions, each under the direction of a lieutenant, one man, as captain, directing the movements of all. Every night all camped together, a cordon of fires being built around the camp and wagons. A branch of the Santa Fe trail left the Arkansas valley near Cimarron Crossing, and passing over fifty miles of desert struck the main trail again near Fort Union. At first travel over this route was interfered with but little by the Indians. Up to 1844 there had been but twelve deaths on the trail, including all killed or wounded by savages. Shortly after that date, however, a number of shocking massacres occurred. Over the trail the grand march of the army of the West was made in 1846, under Kearney and Doniphan, and Santa Fe was taken by them, an easy prize, without the firing

of a gun. For a number of years after that, the disturbed condition of Indian affairs made it necessary to protect all trains with soldiers. During the Kansas troubles, also, and during the civil war, travel over the road was peculiarly dangerous. The Santa Fe trail from Independence, Mo., to Santa Fe is 800 miles long, and for three-fourths of its distance it rises so imperceptibly as to seem perfectly level, and it has not a bridge throughout its entire length. For more than half a century it was the open pathway for trader, soldier, settler, and railroad engineer. A journey over the Santa Fe trail is now an every day duty of the brakeman and baggage-master, the Atchison, Topeka and Santa Fe road having been built along the general line of the trail. After passing Newton, Kan., on this route, the old wagon road is plainly in sight from the car windows, or close beside the track, all along the valley. Near Dodge City, the traveler can distinctly see the branching off of the alternate trail by the Cimarron. Crossing into Colorado, Las Animas and Fort Lyon, old stations on the trail, are passed. Bent's Fort, which was an important point on the old road, can not be seen from the train, but is near the 549th mile post of the railroad. The track now follows the trail to Pueblo, thence south to Trinidad, over the Raton Mountains to Watrous, which is the old Fort Union, and on to Las Vegas. For several years after the railroad had been built to that point passengers reached Santa Fe from Las Vegas by a stage line over the old trail across the mountains, but the railway line to the New Mexican capital was completed in 1882.

#### THE GIANT'S CAUSEWAY OF MEXICO.

ATHENS, Pa.

In what part of Mexico are the basaltic rocks said to be a rival of the Giant's Causeway? L. M. F.

*Answer.*—These rocks are near the mines at Recla, some ten miles to the northeast of Pachuca, in the province of Hidalgo. They are reached by a branch of the Vera Cruz road. The rocks are known as the Palisades de Recla. They are of the usual five-sided column structure of basalt, and are from seventy-five to 100 hundred feet in height. The sides of the causeway form a canyon over 100 feet wide at its opening. Where they meet within the recess a stream of water gushes forth over forty feet from the ground, forming a beautiful cascade.

#### STATISTICS OF HUMAN LIFE.

BRECH ISLAND, S. O.

Give the difference between the duration of a generation (33 years) and the average age of population, which varies, according to "Mullhall's Dictionary of Statistics," from 27.9 years for the population of Belgium to 21.7 years for that of the United States. How are these figures arrived at? H. HAMMOND.

*Answer.*—The duration of a generation is the average length of life for man. That is, though, of a million of human beings born in a generation, some will die in infancy and some will live to old age, the average life for the entire number will be about thirty-three years. This is arrived at by averaging the ages of all persons, old and young, dying within a given term of years. Different localities, different periods, will, of course, alter the result, but the average for the race in civilized countries is always approximately the



same. The average age of population is a different thing. This is the average age of all persons living at any one time, ascertained by summing the ages of persons of different age as given by a census of the population, and dividing this by the sum total of the population. The difference in average above quoted, between the United States and Belgium, shows a larger proportion of young people in the former country.

#### COMMODORE VANDERBILT'S WEALTH.

CHICAGO.

How did the elder Vanderbilt acquire his fortune? How did he begin to accumulate his money, and how did he invest his savings? Where was he born and how was his youth spent? How did his modes of acquisition differ from those of John Jacob Astor?

T. C. D.

*Answer.*—Cornelius Vanderbilt was born on Staten Island, N. Y., May 27, 1794. His parents were people in humble circumstances, supporting themselves on a small farm. They were of German descent. His father was somewhat slack in management, but his mother was thrifty and shrewd, and from her the son inherited the acquisitive talent which he so early displayed. He was particularly averse to books and learning and could hardly be induced to learn to read, but was always ready for the most difficult manual task by which he could earn a dollar. He did not enjoy farm work, however, and wanted to go to sea, but his father vetoed that plan, and as fathers had much more authority in those days than now, the boy was obliged to acquiesce in the parental decision. It was only an apparent submission, however, for he still cherished the design of defying authority and running away. When his mother proposed that he should buy one of the small boats that plied up and down the Harlem River for the purpose of trade, the boy caught at the idea eagerly. But how could he secure the necessary amount—\$100—to purchase the boat? The mother then told him that if he would till a certain field for one year, and raise a good crop of corn on it, she would pay him \$100 on his 16th birthday. He readily accepted the proposition, secured the \$100, and bought his boat. He plied between the island and New York, and so diligently did he work and so carefully keep his savings, that at the end of another year he not only paid back the \$100 to his mother, but had \$1,000 laid up in the bank beside. The next year he was the owner of two vessels, and at the close of the year also purchased a third. The following year, at the age of 19, he married, removed to New York, and at the age of 23 he was free from debt, the owner of several vessels, and had besides \$9,000 in cash. In 1817 he assisted Thomas Gibbons in building the first steamboat run between New York and New Brunswick, N. J., and became captain of her at \$1,000 a year. He now also purchased the hotel at New Brunswick, which his wife managed and by her thrift made it add materially to their income. In 1824 Vanderbilt managed the entire line owned by Gibbons, consisting of eight or ten well-built steamboats. In 1827, while still managing this route, he leased the ferry between New York and Elizabethport, N. J., put on new boats, and made it very profitable. In 1829 he left Gib-

bons, returned to New York, and during the following nineteen years he built and operated steamers on the Hudson, on Long Island Sound, and on the Delaware from Bordentown to Philadelphia. His plan was to put on new and superior boats in opposition to an old line, and to cut rates until the others either bought him off at a good figure or left the field, allowing him a monopoly of the trade and its profits. In 1849 he began running steamers from New York to the isthmus, and from the isthmus to San Francisco. In 1851 he had three steamers on the Atlantic and four on the Pacific side, and the next year also started a branch line from New Orleans to the isthmus. In 1854 he established a line from New Orleans to Galveston, and another from New York to Aspinwall. In 1855 he started a trans-Atlantic line. In 1856 he received a large subsidy from the Pacific Mail Steamship Company for withdrawing his California line. In 1861 he sold out his trans-Atlantic steamers, loaning one of the largest of them—the Vanderbilt, worth \$800,000—to the Government for use during the war. At the close of the rebellion the loan was appropriated as a gift, and Congress generously allowed him a vote of thanks for it. During his steamship career, Vanderbilt owned twenty-one steamers, eleven of which he built, and with steamboats, his entire steam fleet numbered sixty-six vessels; and for many years he had been popularly known as the "Commodore." In 1864, when he sold all his vessels, his accumulations were estimated at \$40,000,000. He now turned his entire attention to railroads. In 1845 he had begun to buy stock in the Harlem Railroad, and in 1864 he bought the entire road. He had also purchased some time before bonds of the Erie Road. Mr. Vanderbilt never bought stocks in Wall street until 1863. After buying the Harlem Road, he immediately purchased a controlling interest in the Hudson River Road, and a year or two later also bought a majority of the shares in the New York Central Road. In 1867 he lost heavily in speculation in stocks of the Erie Road, but in the following five years, from his railroad property and stock profit, he made over \$25,000,000. Mr. Vanderbilt's policy in regard to his railroad property was: 1. To get full control of the road. 2. Improve it in every possible way, and put it under first-class management. 3. Make it a paying institution. 4. Water its stock heavily. In 1869 the Hudson River and New York Central Roads were consolidated, and in 1873 the Lake Shore and Michigan Southern Road had been purchased and was operated as one continuous route with the New York Central. In this year the Vanderbilts, father and son, managed 2,128 miles of railroad, representing \$149,000,000 of capital, fully one-half of which they owned. At his death in January, 1877, "Commodore" Vanderbilt was worth \$105,000,000, all but \$15,000,000 of which was left to his son, William H. Vanderbilt.

Vanderbilt's methods differed from John Jacob Astor's principally in being more daring. He ventured more and amassed more. Astor, at his

death, was worth \$20,000,000, which was a larger fortune than had ever before his time been amassed by any one individual who began life poor, but when compared with Vanderbilt's wealth was merely a modest competency. About one-half of this he made in the fur business, of which he had secured a monopoly through the generous aid of Congress. A full account of his management of the fur trade of the Northwest from the lakes to Oregon, is given elsewhere in this volume. In addition to his exceptional opportunities for acquisition in the fur-trade monopoly Mr. Astor had the good fortune to perceive early the certain prospective importance of New York as a commercial point, and therefore bought largely of land there. In the great advance of property as the city grew the fur merchant made the other half of his fortune. Mr. Astor was a very cautious man. All forms of stock jobbing he detested and would have nothing to do with them, no matter how well they promised. He was not, perhaps, as shrewd as Vanderbilt; was certainly not so rash, or by any means so much disposed to encroach upon the rights of others as was the bold and lucky "Commodore."

#### ONE HUNDRED AND NINETY-FIFTH OHIO.

Give a short history of the One Hundred and Ninety-fifth Ohio Volunteer Infantry.

EL PASO, ILL.  
L. Z. GRAY.

*Answer.*—The One Hundred and Ninety-fifth Ohio Infantry was recruited in the early part of 1865, for one year's service. It was mustered in at Camp Chase, and left there with a force of 759 men, most of whom had already seen service in the war. All of its officers were veterans. The regiment reached Harper's Ferry March 25, 1865, and in a few days joined the forces of General Hancock, near Winchester. While in camp there, news of Lee's surrender was received, and the regiment was ordered to Alexandria, Va., where it performed provost guard duty until Dec. 18, 1865. It was then ordered to Washington City, mustered out, and, returning to Camp Chase, the men were paid off and discharged.

#### PRESIDENT JOHNSON'S AMNESTY PROCLAMATION.

TOWER HILL, ILL.

Who were the excepted classes to whom amnesty was not granted by President Johnson in his proclamation of 1865?

I. W. CARTER.

*Answer.*—There were fourteen classes excepted from the benefits according to the amnesty proclamation of May 29, 1865. These were: 1. Civil or diplomatic officers of the Confederate government. 2. Former United States judges who had aided the rebellion. 3. All military or naval officers of the Confederate government above the rank of colonel in the army or lieutenant in the navy. 4. All ex-members of Congress who had taken part in the rebellion. 5. All who had resigned commissions in the United States army and navy to evade duty in resisting the rebellion. 6. All who treated persons taken in the United States service otherwise than lawfully as prisoners of war. 7. All absentees from the United States for the sake of aiding the Confederate cause. 8. All officers in the rebel service who had been educated at the United States Military or Naval Academy. 9. All Governors of the States in insurrection. 10. All persons who

left homes within the jurisdiction of the United States, and passed through the military lines for the purpose of aiding the rebellion. 11. All persons who had engaged in doing injury to the commerce of the United States upon the seas or lakes. 12. All persons in custody of the United States as prisoners of war. 13. All persons owning property worth over \$20,000, who had voluntarily taken part in the rebellion. 14. All who had taken the oath of allegiance under the proclamation of 1863, and had again taken part with the South. Any of these classes might make special application to the President for pardon, which would be granted if "consistent with the peace and dignity of the United States."

#### SUBMARINE BOATS.

CHILMAN, WY. T.

I read somewhere, some time ago, that a boat had been built on the plan of that described by Jules Verne in his "20,000 Leagues Under the Sea." Is this true? Tell us something about it. G. HOGAN.

*Answer.*—The problem of submarine navigation concerning which M. Verne romanced fourteen years ago, may be now regarded as completely solved, and the clever structure imagined by the novelist is far surpassed in ingenuity by the actual vessels designed and built by M. Nordenfeldt, a Danish inventor, and Mr. J. F. Waddington, of Birkenhead, Eng. The Nordenfeldt vessel is run by steam, the Waddington boat by electricity. The former is cigar-shaped, steel-plated, 64 feet in length, 12 feet beam, and 11 feet deep. Two propellers working in a vertical direction supply the sinking force, and a system of balanced rudders keeps the boat in a horizontal position. The steam is supplied by a marine boiler for traveling on the surface, and is stored up for moving under water. The crew live in the air space in the hull, which is sufficient to sustain four men six hours. This boat has remained under water over an hour at a time without inconvenience to the men, and has been successfully operated at a depth of sixteen feet. She has been run 150 miles on the surface, without recoaling, at a maximum speed of eight knots, and under water sixteen miles at a maximum speed of three knots. Although this is comparatively a low rate of speed, the vessel is regarded as a complete success. Mr. Waddington's boat is also cigar-shaped, but somewhat smaller than the other, being 37 feet long and 6 feet in diameter at the center, tapering off to the pointed ends. A tower is mounted on the boat, and her depth of immersion below the water surface is regulated by external inclined planes, placed one on either side and controlled from within. She is fitted with a rudder placed aft, and a self-acting arrangement serves to keep the vessel in its horizontal position. She is manned by a crew of two men, and a supply of compressed air is provided for occasions when the boat remains submerged for any length of time. The motive power is electricity, which is stored on board in fifty cells. These drive a screw-propeller, and the charge they carry is sufficient to propel the boat for ten hours at a speed of nearly nine knots an hour, either below the water or on its surface. The cells also supply light



through glow lamps, and drive a pump for emptying the water-ballast tanks, which are filled for submerging the boats. This vessel has been given several trials near Liverpool, Eng., with results that are declared highly satisfactory.

#### WHERE LACES ARE MADE.

Give principal towns where laces are made, and tell what kinds are made there.

BRANDON, Wis.

V. V. JONES.

*Answer.*—The most of the hand-made lace is manufactured in Belgium, France, and England. Large quantities of lace are also made by machinery in the two latter countries and in the United States. The application of machinery to this delicate and intricate work has made many kinds of lace very cheap, which, when made by hand, never could have been otherwise than expensive because of the labor required to complete them. In Belgium, where a very large part of the real lace is made (the hand-made laces are all called "real," and machine laces "imitation"), over 150,000 women are said to be employed in lace-making, and the majority of these work at home. There are 900 lace schools in the country. Probably the most important center of the work in that country is the city of Brussels. A very expensive kind of lace is made here, known as Brussels lace, which is of very fine thread and intricate design. Mechlin lace, which is very fine and transparent, is made at Mechlin, Antwerp, Lierre, and Turnhout. The manufacture of Valenciennes, another favorite lace, is extinct in its native city—whence it derived its name—but has attained much prosperity in Flanders. It is now chiefly made at the towns of Ypres, Bruges, Courtrai, Menin, Ghent, and Alost. The productions of Ypres are of the finest quality. In France, a few years ago, the number of lace-makers was estimated at 250,000, but this total had been considerably reduced by the use of machinery in recent years. The point d'Alençon lace, which is a very beautiful lace, made entirely by hand with a fine needle, in small pieces, which are afterward united by invisible seams, is made principally at Bayeux. The towns of Bayeux and Caen are especially noted for the manufacture of fine black laces. Chantilly lace, which was formerly made almost altogether at Chantilly, is now made quite extensively at the two towns mentioned above. The productions of the towns of Lille and Arras are also well known. Lille lace is very simple in design, but very fine and beautiful. The lace of Bailloul is strong and cheap, and extensively used for trimming. The lace manufacture of the district of Auvergne, of which the town of Le Puy is the center, is considered the most ancient and extensive in France. Over 100,000 women are there employed, and nearly every kind of lace is made. The headquarters for machine-made laces in France are at Calais. In England the manufacture of lace is carried on chiefly in the counties of Buckingham, Devon, and Bedford. The best known of the English hand-made laces is the Honiton, so called from the town of this name in Devonshire, where it was first made. In the city of Nottingham the manufacture of hand laces was

an important industry some years ago, but this has been almost destroyed by the introduction of machinery for lace manufacture. The town is now the headquarters for some of the finest designs in machine-made laces that are known. Lace is made to some extent in Ireland, especially in the town of Limerick, also in Scotland, and in nearly every country of Europe to a limited extent.

#### THIRTY-SEVENTH WISCONSIN INFANTRY.

Give a brief history of the Thirty-seventh Wisconsin Infantry.

WATERMAN, Iowa.

A. FRANCE.

*Answer.*—The Thirty-seventh Wisconsin Infantry was organized in the spring of 1864. Six of its companies were mustered into the service during the last week of March, and April 28 left Madison to join the Army of the Potomac. The remaining four companies were filled by drafting, and joined the regiment later. June 11 the regiment was attached to General Burnside's corps and shared in the fight at Cold Harbor, June 16-19; it also took part in the assault upon Petersburg, where it lost several officers and 147 men in killed and wounded. It was engaged in the advance on the ruined fort at the time of the explosion of the mine July 30, and there lost 155 officers and men. The regiment also took part in the fights at Ream's Station and Hatcher's Run. The fall and winter were spent in the fortifications before Petersburg. April 2, 1865, the regiment took a prominent part in the grand assault which captured the fortifications and forced the final evacuation of the rebels. The men were at the grand review in Washington May 23, and July 26 were mustered out and returned to Madison for discharge.

#### ALLEN RAMSAY AND HIS ANCESTORS.

Give some facts concerning the Ramsay family of Scotland, and a sketch of Allen Ramsay, the poet with his descent from the notable Ramsays of the early wars.

CHICAGO.

J. RAMSAY.

*Answer.*—The first member of the family to win historical mention was Alexander Ramsay, who commanded a band of soldiers under William Wallace. We know little of him save the fact that he was a gallant soldier and a loyal son of Scotland. There were two branches of the family in later times, the Ramsays of Cookpen and the Ramsays of Dalhousie, so called from their estates. At the time of the coronation of James I. of Scotland the order of knighthood was conferred upon the family, represented at the King's court by Sir Alexander Ramsay. The son of this knight was the first Ramsay of Cookpen. A century later, in 1538, a member of the other branch of the family, Sir Alexander Ramsay, of Dalhousie, won deathless renown by forcing the English to raise the siege of Dunbar. After carrying on a successful guerrilla war against the invaders for some time, he captured the castle of Roxburgh in 1542, in reward for which the sovereignty conferred upon him the sheriffdom of Teviotdale. His success and honors aroused the jealousy of the powerful Sir William Douglas, who captured and confined him in the castle of Hermitage, and there starved him to death. The first John Ram-

say was either a brother or a nephew of Sir Alexander. His son was Captain John Ramsay, a soldier of the guards under James I. of England, whose son Robert became a notary in Edinburgh, and had a son, also named Robert, who was the father of Allen Ramsay, the celebrated poet. At the time of the poet's birth, Robert Ramsay was manager of the Earl of Hopetoun's mines. He died in 1688, and his widow married again. After her death, a few years later, Allen's stepfather gave the orphan boy the ordinary education of a parish school only, and then apprenticed him in his 16th year to a wig-maker of Edinburgh. He began the writing of ballads when about 25 years old, his first production being prepared for the entertainment of a club to which he belonged. His very first poem is said to have been a Jacobite song. The pleasure expressed by his fellow members of the club on hearing these effusions led him to have them printed on slips, and sold for a penny each. He continued his work both as a poet and a wig-maker until he was 30 years old, and then abandoned the trade and opened business as a book-seller. In this he was successful, and continued in it for thirty-seven years. He was careful and industrious, and the only bad speculation he ever made was in building a theater in Edinburgh, desiring to encourage the drama, this theater being immediately closed by the rigid Scotch law. In spite of this, however, the poet retired on a comfortable competence in 1755. He died Jan. 5, 1758. His principal works were "The Gentle Shepherd, a Pastoral Comedy," "Fables and Tales," and "The Tea-table Miscellany," a collection of choice songs, of which a series of four volumes were published; also many poems and ballads. He did much for the literature of his country, also, by rescuing the work of the old bards from neglect, and stimulating the literary taste of his generation. His son, Allen Ramsay, who was born in 1713, and died in 1784, was a noted and successful portrait painter.

#### ELIHU B. WASHBURN.

FRANKFORT, Mich.

Give a brief sketch of the Hon. E. B. Washburne.  
C. B.

*Answer.*—Elihu B. Washburne was born at Livermore, Me., Sept. 23, 1816. He early learned the trade of a printer, but gave this up at the age of 18, and began to fit himself for the profession of the law. He studied at Harvard Law School, and in 1840 emigrated from New England to Illinois, settling in Galena, where he soon established a good law practice. In 1852 he was elected to Congress, and continued to represent his district there until March, 1869. At the time of his retirement he was by consecutive elections the oldest member of the House. On the secession of General Grant to the Presidency he was appointed Secretary of State, but resigned to accept the post of Minister Plenipotentiary to France. He was serving in this capacity when the Franco-Prussian war broke out, and though all the other foreign Ministers left Paris when the siege began, he remained there, believing it his duty to protect the lives and property of his countrymen in

the city as far as he possibly could. His firmness in protecting some unfortunate Germans who had been unable to get away from the city, won for him the admiration of all governments. Mr. Washburne is now a resident of Chicago.

#### GENERAL ALVAN C. GILLEM.

MOUND, Mo.  
Give brief sketch of General Gillem, who captured John Morgan.  
A. HUBBS.

*Answer.*—Alvan C. Gillem was a native of Tennessee. He was educated at West Point, where he graduated in 1851. He held a first lieutenant's commission at the time the rebellion broke out. Jan. 19, 1862, he received the rank of brevet major for gallant services at the battle of Mill Springs, Ky. He was with Stoneman in his raid into Virginia in December, 1864. Dec. 13 he attacked General Duke at Kingsport, capturing 300 prisoners and several supply trains. Dec. 16 he came up with the Confederate force of cavalry under General Vaughan at Marion. He attacked the force in the rear and pursued to Wytheville, capturing 200 prisoners, with guns and supplies. For his services in that raid he was breveted lieutenant colonel, and in March, 1865, received the honors of colonel and brigadier general by brevet, and in the following month that of major general for his gallantry in the action at Salisbury, N. C. He was made colonel of United States infantry in 1866, and was transferred to the cavalry in 1870. General Gillem died Dec. 2, 1875.

#### WESTMINSTER PALACE.

LOGAN, Kan.

When was the building in which the British Parliament meets built, and what are its dimensions? Give description, etc.  
A. PHARO.

*Answer.*—The old houses of Parliament were burned to the ground in 1834. The new building was erected on the same site as the old, but on a much grander scale. Sir Charles Barry was the architect, and work was begun on the structure in 1840. The building is known as Westminster Palace, and is one of the most magnificent buildings in England. Its entire cost was about \$8,000,000. It is 900 feet in length by 300 feet in width. It was built of limestone taken from the quarries of Yorkshire, and was very beautifully ornamented with many fine figures and carvings. Unfortunately, the stone used proved to be very easily injured by exposure to the atmosphere, and the fine effect of the ornamental figures has already been much marred by their decay. The principal rooms of Westminster Palace are the House of Lords and the House of Commons, which occupy the center of the building, and run on the line of its greatest length. They are separated by an octagon hall with a diameter of 70 feet. From this hall one corridor runs north to the House of Commons, and another south to the House of Lords. The House of Lords is 100 feet long, 45 feet wide, and 45 feet high. This room is profusely gilded and ornamented with a series of frescoes. In niches between the windows are eighteen statues of barons who signed the Magna Charta. In this room is the gorgeously gilt and canopied throne on which the Queen sits when she opens Parlia-



ment. In the center is the woosack of the Chancellor of Great Britain—a large, square bag of wool, covered with red cloth, used as a seat, though without back or arms. The House of Commons is the same height and width as the House of Lords, but not so long, and it is not so gaudily decorated, though of very handsome finish. At the north end is the Speaker's chair, and there are galleries along the sides and ends of the room. Besides these two rooms there are a number of others in the building. The entrance to the octagon hall is by a passage known as St. Stephen's Hall, which communicates by flights of steps with an entrance in the east front, and also with Westminster Hall, a much older building, on the north. At the southwestern extremity of the building is the state entrance of the Queen, which communicates directly with what are known as the royal apartments, the Queen's robing-room, the guard-room, etc. The libraries and committee-rooms are on the river front of the building. The palace is surmounted in the center, above the octagon hall, with a tower 300 feet high. There are also two other lofty towers on the building—at the southwest corner, the Victoria tower, 346 feet high; at the northwest, the clock tower, surmounted by a belfry spire 320 feet high. This clock has four faces, each 30 feet in diameter, and it strikes the hour on a bell weighing nine tons, called "Big Ben."

#### THE DREAM OF FOURIER.

Describe what is known among economists as "the dream of Fourier."

TOMAS, Wis.  
R. C. Wood.

*Answer.*—The social system devised by Fourier differs materially from other systems of communism, inasmuch as it claimed to be based on natural laws and capable of being carried out on mathematical principles. Fourier regarded the human race as still in its infantile stage, and what is known as civilization, with its attendant greedy wealth and oppressed poverty, its idle luxury and overburdened toil, its ignorance, crime, disease, and general class hatred, as an utterly false and unnatural condition. The voluntary association of men, he believed, would be the only source of general prosperity, honesty, health, peace, and universal happiness. Considering attractions and repulsions the governing forces of all nature, created by God for the happiness of His creatures, he believed that all the aptitudes and inclinations of men, if allowed free scope, would infallibly bring about the highest conditions and greatest happiness. Seeing that all things, from suns and planets to atoms, range themselves in groups, according to certain fixed laws of attraction and repulsion, his study was to discover the kind of human society that must eventually form itself in obedience to those laws. This he thought he found in what he called the phalanstery, which he planned to consist of 400 families, or 1,800 persons, as in this number he thought the whole circle of human capacities could be included. These should live in one immense edifice in the center of a large and highly cultivated domain, and furnished with workshops, studios, and all the appliances of in-

dustry and art, as well as all the sources of amusement and pleasure. When the earth is covered with these palaces of attractive industry, the associations will also unite in groups under a unitary government. There will be one universal language and one supreme government, and the only armies will be the great industrial armies, which will drain swamps, irrigate deserts, plant forests, and effect the amelioration of climates. The system of Fourier does not propose to destroy, but rather to preserve, property, position, and hereditary rights, nor does it war directly with morals or religion. The property of the association is to be held in shares, and the whole property of the industrial and artistic groups is to be divided into twelve parts, of which five parts are to be due to labor, four to capital, and three to talent. The apartments are to be of various prices, and the styles of living to vary in luxury and cost, but the poorest person in the association is not only to be secure of comfort, but his minimum of enjoyment will be greater than the present social arrangements can give the princes and millionaires, while these will have opened to them pleasures of which they can now scarcely have a conception. The economies of the large scale in the phalanstery reduce by two-thirds the expenses of living, while an attractive and scientific industry would quadruple the products of civilization. Many attempts have been made—a few in France and more in America—to carry the scheme of Fourier into practical realization; these, however, have always been on a small scale, with inadequate means, and have resulted in failure. Whatever may be thought of the system, therefore, these failures do not prove it wholly impracticable. It still remains to be shown whether, under favoring circumstances, human nature might not carry out successfully this social system, widely as it differs from accustomed social conditions.

#### THE SINKING OF THE TECUMSEH.

BIG SPRING, Neb.  
Give an account of the sinking of one of the boats of Farragut's fleet near Fort Morgan, Ala., in 1864.  
CHARLES HARRISON.

*Answer.*—This accident occurred during the attack made by Admiral Farragut on the defenses of Mobile, Aug. 5, 1864. Farragut had been blockading this port with his squadron ever since the beginning of the year, but had been unwilling to make any attack upon the forts, because he had nothing but wooden vessels. In the latter part of July four monitors were sent to him, the Tecumseh, Winnebago, Manhattan, and Chickasaw, and immediate preparations were made to attempt the entry of the bay. Early on the morning of Aug. 5 the fleet, headed by the Tecumseh, moved up the bay. At about 7 o'clock, when the head of the column came abreast of the fort, the latter opened fire, and the action soon became general. The Tecumseh had fired two guns, and had loaded and was about to fire again, when a large torpedo exploded under her, blowing an enormous hole in her bottom, just under the turrets. She lurched from side to side, careened violently over, and went down head foremost. An incident is told

of her brave commander, Captain Craven, that should always be linked with his name, as Sidney's is with the cup of cold water. At the instant of the explosion the pilot and he instinctively made for the narrow opening leading to the turret below. Craven drew back. "After you, pilot," he said. There was no afterward for him: the pilot was saved, but he went down with his ship. Captain Jouett, of the *Metacomet*, on seeing the *Tecumseh* go down, instantly sent a boat to the rescue of her crew, in charge of Ensign Nields, an officer of the volunteer navy. The boat pulled toward the wreck, and succeeded in saving the pilot and nine of the ship's company. Two officers and five men had also escaped in one of the *Tecumseh's* boats, which was towing alongside, and four swam to the fort, where they were made prisoners; thus from over one hundred men on the wrecked ship twenty-one were saved.

#### THE CONQUEST OF MEXICO.

CATALPA, Neb.  
Give a sketch of the conquest of Mexico by Cortez.  
BLANCHE COLLINGS.

*Answer.*—Hernan Cortez had been one of the most able lieutenants in the expedition of Diego Velasquez against Cuba in 1511. In 1518, therefore, Velasquez, who had been installed as governor of the conquered island, intrusted to him an expedition against Mexico. No sooner had the commission been granted, however, than Velasquez wished to revoke it, fearing that the dashing lieutenant would claim all the glory of the enterprise, but Cortez retained his command in defiance of the governor. Probably so great a task was never undertaken with so little thought given to its possible great difficulties. The entire force with which Cortez undertook the conquest of the then great and powerful empire of Mexico consisted of less than 700 men, of whom thirteen only were musketeers, with but ten field-pieces and two or three smaller cannon. Early in 1519 the Spaniards reached the Mexican shores. Sailing up the river Tabasco, Cortez captured the town of that name, the Indians there being much impressed by the prowess of the Spaniards. Thence the invaders went to the coast of San Juan d'Ulloa, where Cortez was visited by a deputation of Mexican chiefs, who brought him many gifts of gold and silver. The object of these was to induce the invaders to leave the country, but they only inflamed the cupidity of the Spaniards, and made them more desirous of penetrating into the interior. Montezuma was then Emperor, ruling all Mexico with nearly absolute sway. Cortez declared his intention of visiting the Emperor in his capital. Montezuma sent to him rich presents, but forbade his coming to the Emperor's city. This opposition but whetted the determined purpose of Cortez. Founding a settlement on the coast, which he called Vera Cruz, and burning his ships so that his men could not return and must conquer or perish, with a force reduced to 400 white men on foot and fifteen horse, and a few thousand Indians who, because of disaffection toward Montezuma, had joined him—he set forth

on his daring attempt to conquer the capital of the empire of Mexico. Overcoming the Tlascalas, a brave people, who became his allies, and taking fearful vengeance on the city of Cholula, where, by Montezuma's orders, a treacherous attempt was made to massacre his troops, Cortez, on Nov. 8, 1519, reached the City of Mexico with his little band, and was received with great pomp by the Emperor in person. The Spaniards were regarded as those descendants of the sun who, according to an ancient prophecy, were to come from the East and subvert the Aztec Empire, and this tradition was worth many soldiers to Cortez. But while he was at the capital, one of Montezuma's generals attacked the little colony which he had left behind at Vera Cruz, and killed several of their number. Returning to the City of Mexico this general made known the fact that the boasted children of the sun were but mortals, and would have caused the prompt annihilation of the Spaniards but for the decisive action of their leader. Cortez immediately seized Montezuma himself and conveyed him to the Spanish camp, where, by threats, he was forced to give up the offending general and three other chiefs, and these Cortez caused to be burned alive in front of the palace. Soon after Montezuma, who had been put in irons, made a formal cession of his empire to Spain, and paid over to Cortez 100,000 ducats in gold. The supreme daring of Cortez's action is amazing when we remember that the City of Mexico at the time contained a population estimated at 300,000. Meanwhile Velasquez, enraged at the report of Cortez's audacity and success, sent a force of 1,000 men, well provided with artillery, to seize him and bring him back a prisoner to Cuba. Cortez, hearing of the landing of this army on the Mexican coast, left 200 men in the capital—having with unparalleled audacity recommended them to the care of Montezuma as a vassal of the King of Spain—and taking seventy men with him, was joined by 150 whom he had left at Cholula, and surprised and captured the force sent against him and secured their allegiance. But in his absence the Mexicans in the city had risen and overpowered the Spaniards. During the disturbance Montezuma, who was still held a prisoner, on appearing on a terrace to address his subjects, was wounded with a stone so that he died in a few days. Cortez attempted to re-enter the city, but was kept out by the enraged people. The Spaniards escaped as best they could, many of their number being killed, but after recruiting and reorganizing his troops and adding to them a large force of Indians, Cortez subdued all the neighboring provinces and then besieged Mexico. The country made a gallant defense for four months, but surrendered Aug. 13, 1521, after nearly five-sixths of its population had perished by famine. The buildings had been shattered by the fire of the artillery, and the city is described as appearing, when the Spaniards entered it, "like some huge churchyard with the corpses disinterred and the tombstones scattered about." Cortez was now declared Governor and Captain General of the



country. He immediately caused Guatimozin, the new Emperor, to be executed with great cruelty, and many officers suffered a like fate. The unhappy Mexicans made several attempts at revolt, but these were all crushed by the superior power of European arms.

#### MAGNETISM AND ELECTRICITY.

ROCK ISLAND, ILL.

1. Who discovered the identity of magnetism and electricity? 2. Who first developed and applied the electro-magnetic agency to the telegraph?

A. ANDERSON.

*Answer.*—1. It is usually true that great discoveries are not achieved all at once, but by degrees; and not often by one person only, but by several persons, all working in the same line. Long before the existence of the electrical force was known it was noticed that discharges of lightning frequently gave polarity to bars of steel, and in some cases reversed the mariner's compass. When, early in the eighteenth century, scientists first began making tentative experiments in electricity, the analogy between the phenomena observed and those of magnetism attracted attention. Dr. Franklin was one of the first to suggest that the forces might be identical, but his experiments, undertaken to test his theory, were not successful. In 1819, Professor Oersted, a Danish chemist, discovered the power which the electric current has of deflecting a magnetized needle. Not long after this, Arago discovered that a steel rod, placed across a wire carrying a current, was magnetized. Ampere immediately substituted a helix for a straight wire, and in 1825 Sturgeon used soft iron in the place of steel, and the electro-magnet was born. By these means the conversion of electricity into magnetism was shown, but it was not known that magnetism could be converted into electricity. Faraday, in 1831, was the first to demonstrate that this also could be done, and that the two forces were one and the same. 2. The electric telegraph may also be said to be not the invention of one man, but of many. Experimenters in Germany, France, England, and the United States were testing the possibility of transmitting messages by the aid of electricity, for some years before Professor Morse achieved his great triumph in the invention of the most simple and practical method. The electro-magnet has always had a part in telegraphic work. In fact, the discovery of electro-magnetism by Oersted led immediately to experimental telegraphy. The Morse apparatus uses an electric battery to supply the power for sending the message, and the electro-magnet to receive and register it.

#### PRIVATE LIFE OF CHARLES JAMES FOX.

SAVANNAH, MO.

To whom was the famous Charles James Fox married, or was he married at all? If so, had he any children? Where was his wife buried, and to whom did he leave his large fortune?

AN OLD SUBSCRIBER.

*Answer.*—Charles James Fox was married about 1795 or 1797—the date is variously given—to Mrs. Armitstead, a lady who had lived with him as his wife without the formality of a ceremony for a number of years previous to this date. The wide difference between the public opinion concerning such connections in those times

and in ours is shown by the respectful reference to this lady in letters of contemporaries and friends of Fox. She is described as a woman of great beauty, and possessed of very brilliant mental endowments, and of great amiability of character. Fox was from the first devotedly attached to her, and always refers to her with the utmost tenderness and respect. They had no legitimate children. A natural son, born in the first year of their connection, was a handsome, bright boy, though deaf and dumb from birth. This child died in his 15th year. Mrs. Fox outlived her husband some years. We do not find her place of burial mentioned. The remains of Fox were buried in Westminster Abbey. Charles James Fox was not a rich man. He never inherited the large fortune left by his father, as this passed to the son of his elder brother, who became known as Henry, Lord Holland, the third of that title. Fox was devotedly attached to his nephew, and trained him for public life. He became a prominent member of the House of Lords and held several important government offices. Charles James Fox was, as is well known, passionately addicted to gaming for many years of his life. In this way he squandered all of his own portion of the family inheritance, and more—the elder Lord Holland at one time advancing £70,000 to pay his son's losses in gambling. Fox never secured any pecuniary advantages through his political prominence, for, except for his passion for play, he was the soul of integrity and honor. But through this habit he was always in debt. In 1793 his private friends raised a fund for him and paid off all his debts, and settled an annuity of £3,000 upon him. From that time he never touched a card. It may be said of Fox that his faults were those of his education and of the period in which he lived, while his virtues belonged to all humanity and all time. Probably no man ever lived whose character was more wholly free from any taint of malevolence, vanity, or falsehood. The union of his marvelous intellectual power with this exceptional sweetness of disposition gave his character a charm that even his bitterest political enemies could not resist, while his friends almost idolized him.

#### FORTY-SIXTH OHIO INFANTRY.

RINGGOLD, Neb.  
Give a sketch of the Forty-sixth Ohio Infantry.  
Jos. Zook.

*Answer.*—The Forty-sixth Ohio was recruited at Worthington, Franklin County, Ohio, and was organized Oct. 16, 1861. It left Camp Chase Feb. 18, 1862, and reported at Paducah, Ky., Feb. 22, and was attached to General Sherman's division. It was in the hottest of the fight at Shiloh, and lost there 280 men in killed and wounded, and fifteen captured. It took part in the subsequent attack upon Corinth, and during the following summer and autumn was mainly employed in garrisoning the Memphis and Charleston Railroad, and during the winter in raiding and scouting through Northern Mississippi. In June, 1863, the regiment was transported to Vicksburg and took part in the siege there, and immediately after the sur-

render marched with General Sherman to attack Jackson. In September the regiment was sent to the relief of Chattanooga, arriving there just in time to take part in the battle of Mission Ridge, where it lost heavily in killed and wounded. After this battle, it was sent to Knoxville, and after the siege of that place was raised, it went to Scottsboro, Ala., for winter quarters. In March, 1864, the regiment re-enlisted as veterans and was granted a furlough of thirty-eight days. Immediately on its return to camp, it was again sent to the front. It took part in the engagements of Resaca, Dallas, New Hope Church, Kenesaw Mountain, and in the fight before Atlanta, and was with Sherman in his "March to the Sea." After Johnston's surrender, it went to Washington, D. C., took part in the grand review, then went to Louisville, Ky., where it was mustered out July 22, 1865. During its service the regiment lost 725 men in killed, wounded and prisoners.

#### THE MCCOOK FAMILY.

Tell us something about the McCook family of Ohio; how many of them were in the war, and when and where were any killed? MARION, Kan.  
F. LEWIS.

*Answer.*—The McCook family is said to have contributed sixteen of its members to the Union army during the war. Among these were Judge Daniel McCook, of Columbiana County, Ohio, and his eight sons. The Judge was himself too old to be regularly enrolled in the service, but was allowed to accompany the Forty-fifth Mounted Infantry as a volunteer. He fell on the battle field, and three of his sons also—Charles Morris, General Robert Latimer, and General Daniel McCook. Charles Morris McCook was a private in Company F, Second Ohio Volunteers, and was killed at the first battle of Bull Run. Robert L. McCook was a lawyer in Cincinnati when the war broke out. Through his great influence with the Germans he aided in recruiting the first regiment of that nationality raised there—which was known as the Ninth Ohio—and was made its colonel. He served first in West Virginia, and subsequently in Kentucky, and was made a brigadier general of volunteers March 21, 1862. He commanded a division of Thomas' corps in Buell's army. In July he was too ill to accompany his division on its march, but when being conveyed by a company of soldiers after the army, he was on Aug. 5 attacked by a band of guerrillas. They fired upon the ambulance, mortally wounding General McCook, so that he died on the following day. In September, 1863, Colonel Daniel McCook, in command of the Fifty-second Ohio, passed the house near Huntsville, Ala., of the man who had shot his brother. He sent a detachment of soldiers with instructions to burn and destroy the property, and cut down the trees and shrubs, which was accordingly done, nothing being left on the place but a small negro cabin. Daniel McCook was a lawyer in Kansas City before the war. The first year of the war he served on his brother Alexander's staff. In 1862 he raised the Fifty-second Ohio, and was put in command of it. He served at Perryville, Stone River, Chattanooga, and in the Atlanta campaign.

July 16, 1864, he was breveted brigadier general for gallant conduct at the battle of Kenesaw Mountain, but died the following day from severe wounds received in that battle. Judge McCook, the father of these officers, died July 21, 1863, of wounds received in the fight with Morgan's raiders at Buffington Island, Ohio, two days previous. General Alexander McCook was another brother of this family. He was educated at West Point, where he graduated in 1852. He served with credit in the Indian wars, and when the war broke out was made colonel of the First Ohio Regiment. In December, 1861, he was made a brigadier general, and in July, 1862, was commissioned a major general of volunteers. He was a man of great personal bravery, but was not an able commander. He brought on the battle of Perryville against the express orders of General Buell. His line was broken at Stone River, and again at Chickamauga. Oct. 6, 1863, he was relieved from the command of the Twentieth Corps, and was not again during the war placed in a position of responsibility. None of the McCook family manifested any brilliant military ability, but all were brave, honorable men, and hard fighters. Another brother of this family, George W. McCook, who was a prominent Democratic politician of Ohio at the time the war broke out, was placed by the Governor of the State in charge of the organization of the troops, and subsequently served as a staff officer for a limited time. All the McCooks were Democrats, but were unwavering in their allegiance to the Union. Anson G. McCook was a son of one of these McCook brothers. He raised the first company of volunteers in Eastern Ohio in 1861. When his regiment of three months' men re-enlisted for three years, he went with it as major, and later became colonel. He was mustered out with the regiment in the fall of 1864, and a few months later was commissioned colonel of the Nineteenth Ohio Infantry. In the summer of 1865 he was breveted brigadier general. Edward M. McCook, another nephew, was educated at West Point, and was a lieutenant of cavalry at the breaking out of the war, served with credit at Shiloh, Perryville, Chickamauga, and elsewhere, and by March, 1865, had won a brevet brigadier generalship.

#### THE DARK AGES.

CHICAGO.  
Tell us something about the dark ages, why so called, and what dates were included in the term, with authorities concerning the history, etc. L. M. P.

*Answer.*—The Dark Ages is a name often applied by historians to the Middle Ages, a term comprising about 1,000 years, from the fall of the Roman Empire in the fifth century to the invention of printing in the fifteenth. The period is called "dark" because of the generally depraved state of European society at this time, the subservience of men's minds to priestly domination, and the general indifference to learning. The admirable civilization that Rome had developed and fostered was swept out of existence by the barbarous invaders from Northern Europe, and there is no doubt that the first half of the medieval era, at least, from the year 500 to 1000,



was one of the most brutal and ruffianly epochs in history. The principal characteristics of the middle ages were the feudal system and the papal power. By the first the common people were ground into a condition of almost hopeless slavery, by the second the evolution of just and equitable governments by the ruling classes was rendered impossible through the intrusion of the pontifical authority into civil affairs. Learning did not wholly perish, but it betook itself to the seclusion of the cloisters. The monasteries were the resort of many earnest scholars, and there were prepared the writings of historians, metaphysicians, and theologians. But during this time man lived, as the historian Symonds says, "enveloped in a cowl." The study of nature was not only ignored but barred, save only as it ministered in the forms of alchemy and astrology to the one cardinal medieval virtue—credulity. Still the period saw many great characters and events fraught with the greatest importance to the advancement of the race. We have not space to give even a synopsis of this long period, but would advise any one who desires to get a clear and comprehensive view of the medieval era to read Hallam's "Europe During the Middle Ages."

## ISOTHERMAL LINES.

CHICAGO.

Tell us something about isothermal lines. Do these lines change their latitude? What line touches Northern Minnesota and Lake Superior? Why is it so much colder in North America than in Europe in the same latitude?

A. R. WILLIAMS.

*Answer.*—Isothermal lines are lines laid down on the map to connect places of the same mean temperature. Baron von Humboldt was the first to put these systems of lines on maps in 1817. If the surface of the earth were uniform, if there were no great inequalities of land and water upon it to modify the temperature, it is plain that the isothermal lines would agree exactly with the parallels of latitude. But since there are so many causes that affect climate in the formation of the earth's surface, these lines do not at all correspond to those of latitude. In the isothermal lines, as given on the map, the local influences of elevation of land are eliminated and the temperatures reduced to what they would be were all places at the level of the sea. These lines are named according to the mean temperature which they indicate, according to the Fahrenheit thermometer, as the line of 50 degrees, the line of 60 degrees, etc. The isothermal line of Northern Minnesota is 40 degrees. The isothermal lines are not parallel with each other but show great deviations of curve that seem to indicate two northern and two southern poles, or centers, of greatest cold. These curvatures are greatest in the extra-tropical parts of the northern hemisphere. The northern centers of cold are situated in the arctic regions, one to the north of Siberia, nearly in the meridian of Yakutsk, and the other to the north of America, nearly in the meridian of the western part of Hudson's Bay. The isothermal lines, generally in the northern hemisphere, descend to a lower latitude in the eastern part of the two great continents, while rising to a comparatively

high latitude on the western coast of both. The line of 50 degrees Fahrenheit, for instance, which passes through the north of England, descends below the latitude of New York, on the east coast of America. The great difference in mean temperature between Western Europe and the eastern part of North America, is to be ascribed mainly to the tempering influence of the warm waters of the Gulf Stream upon the coasts of the former country, and to the southwesterly trade winds which blow on it for nearly two-thirds of the year.

## THE TRADE DOLLAR.

BOYNE, Kan.

1. When was the trade dollar first coined, and how was it brought under par? 2. Did not the Government formerly coin silver for individuals? 3. Why is not silver coined pure? T. W. COLE.

*Answer.*—1. The coinage of the trade dollar was authorized by the act of February, 1873, at the same time that the coinage of the standard dollar was discontinued. This dollar was to contain 420 grains of silver nine-tenths fine, and was intended for the convenience of our trade with China and Japan, those countries having silver coins of nearly the same value. The law authorized its coinage for individuals, all holders of silver bullion being allowed to have the same made into dollars at the United States Mint, at a charge of  $1\frac{1}{4}$  per cent, the estimated cost of manufacture. It was also provided by an act passed the following year that the trade dollar, with other silver coins, should be a legal tender for any amount not exceeding \$5 in one payment. The manufacture of this coin created a new market for silver, and very large quantities of bullion were immediately used for it. At this time the actual value of this dollar, including the charge for coinage, was a little more than \$1.04 in gold. There was, therefore, no object in putting the coins in circulation in this country, and they were at first largely exported. But during the years 1873-74 an extraordinary increase in the supply of silver bullion caused the value of the silver dollar to depreciate. The holders of bullion therefore now found it more profitable to put the trade dollars in circulation than to export them. They made their appearance first in the Pacific States, where the currency was on a gold basis, because a silver dollar was now cheaper than a gold dollar. Their appearance caused great annoyance, and the attention of Congress being called to the matter, a law was passed July 22, 1876, declaring that the trade dollar was no longer a legal tender, and authorizing the Secretary of the Treasury to limit the coinage according to the export demand. But during the year 1877 the increase in value of the paper currency caused the value of the trade dollar to become less than that of the paper dollar, and trade dollars began to make their appearance, as if by magic, all over the country. The Secretary of the Treasury ordered the coinage of these dollars to be discontinued, and none of them have since been manufactured. There were in all 35,959,360 of these dollars coined, of which probably 6,000,000 still remain in this country. There was a bill brought before Congress, in the session of 1884-85, authorizing

the Government to buy up these troublesome coins and recoin them into standard dollars, but owing to objection to some of its provisions it did not pass. 2. Previous to the passage of the coinage act of Feb. 21, 1853, the Government coined silver in any amount and in any form for individuals, and between 1873 and 1877 it coined the trade dollars for private persons. 3. Silver can not be coined perfectly pure, because it is so soft that the coins would soon be much lessened in value by mere abrasion or rubbing. It could also be too easily clipped.

#### PRINTING CROCKERY.

How was the old-fashioned pink and blue figured crockery printed?

SARGENT, D. T.  
J. H. STANLEY.

*Answer.*—In the same way that designs are put on crockery to-day. The finest and most expensive wares are painted by hand, but the cheaper grades are printed only. When the pottery is in the state called biscuit ware—that is, when it has been whitened by baking but has received no glaze—the pattern for use upon it is printed on paper in enamel colors, and while the printing is still wet is applied to the ware; the enamel ink is absorbed by the porous material, and, after a time, the paper is washed off, leaving the pattern clearly stamped upon the ware. It is then fired, to fix the color, dipped in glaze, then given another firing, which converts the glaze into a perfectly transparent, glassy covering all over the surface of the pottery. The painted decorations on fine porcelain are not applied on the biscuit ware, but on ware that has been glazed and fired, and is again fired after the design has been painted on it.

#### THE ALABAMA AWARD.

It is asserted that on account of false claims for damages at the time the Alabama award was made a balance of five million dollars or so is left in the Treasury. Is this true?

ST. PETER, Minn.  
J. H. RHODES.

*Answer.*—The various claims that had been presented to the United States Government on account of injuries or loss sustained through the Confederate cruisers were brought before the Geneva tribunal, but that body did not attempt to canvass them or decide upon their validity. It refused to consider the claim put forward by Mr. J. Bancroft Davis, in behalf of this Government for "indirect damages," but all claims for direct injuries were accepted as legitimate. The sum awarded—\$15,500,000—was arrived at by mutual concessions on the part of the members of the tribunal, for they had no means of knowing what part of the just claims under the award had already been formulated. Among the claims which were there brought forward and received on an equal footing with the others were those of certain insurance companies for "salvage." That is, insurance companies which had paid over to their owners full insurance for vessels destroyed by the cruisers, asked to be reimbursed in part for their loss, founding their claim on the generally accepted rule that when underwriters have paid for a burned house or a wrecked ship anything that is saved from the ruin belongs to them. However, after the award had been paid over to the United States for distribution to in-

dividuals our Court of Claims threw out all these claims for "salvage" on the part of insurance companies. There is now quite a large balance remaining in the United States Treasury, part of which is interest on the award and part is what is left of the principal. The above circumstance is the sole foundation for the story of "false claims."

#### THE NORTHERN BOUNDARY OF DELAWARE.

CHICAGO.  
Why is the northern boundary of Delaware circular?  
F. R. SMITH.

*Answer.*—The northern boundary line of Delaware is part of a circle, drawn with a radius of twelve miles around Newcastle. When William Penn received his grant of land in the territory afterward named Pennsylvania the land around Newcastle was already the property of the Duke of York. The charter which Charles II. gave to Penn in 1681 stated that Pennsylvania "was bounded on the east by the Delaware River, from twelve miles distance north of New Castle town until the three and fortieth degree of north latitude," and the southern boundary was to be "a circle drawn at twelve miles distance from New Castle northward and westward, until the beginning of the fortieth degree of northern latitude, and then by a straight line westward."

#### EIGHTH WISCONSIN INFANTRY.

HENNING, Minn.  
Oblige a soldier of that regiment by giving a brief history of the Eighth Wisconsin Infantry.  
D. PARKER.

*Answer.*—The Eighth Wisconsin Infantry—the eagle regiment—was organized in September, 1861. Oct. 12 it left Madison for St. Louis. Ten days after its arrival in that city orders were received to march to Pilot Knob, and six days later the men took part in a sharp battle with the forces under Jeff Thompson, near Greenville. The regiment was stationed at Pilot Knob for several months, and in January, 1862, was sent to join General Pope's army at New Madrid. It took part in the battle of Farmington, thence went to Booneville, Miss., where it was encamped for some months, was in the battles of Iuka and Corinth, encamped at Grand Junction, Tenn., during the winter, and in the spring joined Grant's army in its movement upon Vicksburg. It was at the battles of Raymond and Jackson, and bore an honorable part in the siege of Vicksburg; also performed detached service during the siege, going on foraging expeditions up the Yazoo and Mississippi. After the surrender the regiment remained in the vicinity of Vicksburg until the close of the year. It took part in Sherman's Meridian expedition, also in the Red River expedition under General Mower. Returning to Memphis the men reenlisted and took their furlough and on their return to the field joined General A. J. Smith's expedition into Mississippi. After this they went over into Missouri and pursued Price for several months, then returned to Nashville and took part in the battle there Dec. 16. In January the regiment was sent to New Orleans and from there went to take part in the attack on Mobile. On the surrender of that city it was stationed at various points in Alabama until September, when



it was mustered out and sent home. The men were paid off and discharged at Madison, Dec. 13. The eagle was with the regiment in all its fights, and, when brought home, became an object of much interest. A full history of this remarkable bird is given in the Curiosity Shop book for 1885.

#### THE FORMER PRESIDENTIAL SUCCESSION LAW.

MT. VERNON, Iowa.

What was the law regarding the Presidential succession, passed in 1792?

M. G. WHITING.

CENTERTVILLE, Iowa.

Give the statute concerning the calling of an election in case the President of the Senate or Speaker of the House should become acting President.

W. CLARK.

*Answer.*—That part of the law of March 1, 1792, which referred to the Presidential succession was as follows: "In case of removal, death, resignation, or inability of both the President and Vice President of the United States, the President of the Senate, or if there is none, then the Speaker of the House of Representatives, for the time being, shall act as President until the disability is removed or a President elected. Whenever the offices of President and Vice President both become vacant, the Secretary of State shall forthwith cause a notification thereof to be made to the executive of every State, and shall also cause the same to be published in at least one of the newspapers printed in each State. This notification shall specify that the electors of a President and Vice President of the United States shall be appointed in the several States \* \* \* within thirty-four days preceding the first Wednesday in December next ensuing." [It was, however, provided that if the date of notification were less than two months previous to the first Wednesday in December, that the date of the election should be appointed a year from that time, if the term for which the President and Vice President last in office were elected did not expire in the next ensuing March; and if this term did expire in the next March, no election should be called, the acting President being permitted to hold the office until officers should be chosen at the next regular election.] Electors chosen or appointed on the notification above described were to meet and give their votes as in regular elections, on the first Wednesday in December, and all the proceedings in transmitting their votes to Congress, the opening and declaring of the same, etc., were to follow the law as laid down for regular elections. The above was superseded by the new Presidential succession bill, passed by the present Congress.

#### MAKING CORN STARCH.

WAUSAU, Iowa.

Will Our Curiosity Shop tell how corn starch is made?

DAVID BLEEM.

*Answer.*—Each corn starch manufactory has special processes of its own, but the general process is as follows: The corn is first macerated in a weak alkaline solution, containing about two hundred grains of caustic soda to a gallon of water. This alkali dissolves the gluten, but leaves the starch in the grain. After standing about twenty-four hours, the alkaline liquid is drawn off, and the grain after being well washed is drained, and is then ground into flour. A

fresh quantity of lye is added to it, and it is again digested for twenty-four hours or so, with frequent stirring. It is now left for from sixty-five to seventy hours, in which time the dissolved gluten rises and forms a yellowish stratum at the top. This part is carefully drawn off, leaving the fibrous part of the grain at the bottom intermixed with starch. This deposit is then washed with cold water several times, and the water drawn off until nothing is left but the fibrous part of the grain, while the water which has carried off the starch in solution, deposits it in a perfectly pure condition. The gluten removed is not thrown away, but is precipitated by mixture with an acid, and is then cleansed for food. The starch when perfectly dry is packed for market. The yield of starch is about twenty-five pounds to a bushel of corn, or nearly 50 per cent.

#### THE LAST BATTLE OF THE SLAVERY WAR.

COUNCIL BLUFFS, Iowa.

When and where was the last battle of the Rebellion?

B. VAN DYKE.

*Answer.*—The last battle of the war occurred near Brazos Santiago, Texas, May 13, 1865. A small expedition sent out to surprise a Confederate camp was overtaken on its return by a larger force and defeated with a loss of eighty men. This engagement is officially recorded as the battle of Palmetto Ranch. The Federal troops engaged were the Thirty-fourth Indiana Volunteers, the Sixty-second United States Colored Infantry, and the Second Texas Cavalry.

#### THE SEVENTEENTH WISCONSIN INFANTRY.

BENTON HARBOR, Mich.

Would like a brief history of the Seventeenth Wisconsin Infantry, with list of officers of Company A of that regiment.

JOHN M. JENKINS.

*Answer.*—This regiment, sometimes known as the "Irish Regiment," was organized early in 1862. It was recruited at, large from all parts of the State, and rendezvoused at Camp Randall, Madison, where it was mustered into the United States service March 15, 1862, with John L. Doran, an eminent Irish lawyer of Milwaukee, as colonel. The officers of Company A were: P. H. McCauley, captain; John Crane, first lieutenant, and Patrick McGrath, second lieutenant. A few days after its organization the regiment was sent to Benton Barracks, St. Louis, and April 10 was sent to Pittsburg Landing. It took part in the siege and capture of Corinth, and remained at that place, or near there on the railroad, doing guard duty, during the entire summer. It was at the battle with Price, before Corinth, Oct. 5, where it lost forty-one in killed and wounded. In December it went with Grant's expedition southward, returning after the surrender of Holly Springs. In the following year it accompanied the expedition against Vicksburg, taking especial part in the actions at Champion Hills and at Big Black River. After the surrender of Vicksburg the regiment was sent to Natchez, whence it accompanied General Crocker against Fort Beauregard in September, and in October returned to Vicksburg. In January seven-eighths of the regiment re-enlisted, and went home on veteran furlough; returning, were attached to Sherman's army, and took part in

the flights at Kenesaw, Bald Hill, Atlanta, and Jonesboro. In October, 1864, the regiment was sent back to aid in repelling Hood's threatened attack on the army's communications, after which it rejoined Sherman, and accompanied him on his "march to the sea." After Johnston's surrender the regiment went to Washington for the grand review, and returning to Louisville was mustered out July 14, 1865.

#### W. M. THACKERAY.

Give a brief sketch of the writer, W. M. Thackeray.  
CHICAGO.  
W. T. B.

*Answer.*—William Makepeace Thackeray was born in Calcutta in 1811. He was educated at Cambridge University. He inherited from his father a considerable fortune, and when choosing a life pursuit was at first inclined to be an artist; but after a few years of desultory sketching he adopted a literary career. He at first contributed to various London journals, writing under the nom de plume of Michael Angelo Titmarsh. He soon manifested a remarkable talent for fine satire, which showed itself particularly in "The Great Hogarty Diamond," a story which he published in 1840. During the same year he issued a volume of sketches of travel entitled "The Paris Sketch-book." In 1846 he began to publish his novels, under his own proper name, and these soon made him very famous. The first issued was "Vanity Fair," which was followed by "Pendennis" (1850), and "Henry Esmond" (1852). "The Snob Papers" and "The Newcomes" were published in 1854, and in 1856 "The Virginians" and two volumes of miscellaneous essays. In 1851 he delivered in London a course of "Lectures on the English Humorists of the Eighteenth Century," and in 1852 visited the United States and repeated these lectures in our great cities. In 1856 he again visited this country and gave here his "Lectures on the Four Georges," and on his return repeated the course in London and other cities. He became editor of the *Cornhill Magazine* in 1860. He died in 1863, leaving a family of several daughters.

#### A GREAT FINANCIER.

Give a history of Henry Meiggs, who once lived in San Francisco, and of his railroad schemes in South America.  
ONEIDA, KAS.  
CRUIS SHINN.

*Answer.*—Henry Meiggs was born in Catskill, N. Y., July 7, 1811. In 1835 he went to New York City, engaged in the lumber business, and failed in the commercial crisis of 1837. In 1838 he again started a large lumber-yard, this time in Williamsburg, L. I., and was for a time successful, but in 1842 he again failed, and for several years had a hard struggle with adversity. In 1848 the gold excitement in California attracted him thither, and he there engaged in the lumber business, with such success that in a few years he was the owner of a large number of ships and schooners conveying lumber from various points on the coast. At last a financial crisis in the money market of San Francisco forced him to borrow heavily, and subsequent depression of business made it impossible for him to repay the loans when they became due, and he failed, and, to

escape his enormous liabilities, fled to South America. He settled in Chili and went into the business of a contractor for building bridges, and in 1858 made a large contract with the Chilean government by which he subsequently cleared a profit of \$1,300,000. He then devoted himself to railroad construction, and in Peru contracted for the construction of six railways, one of which, the Callao, Lima and Oroya Railroad, ranks among the most daring achievements of modern engineering. He also undertook the improvement of the environs of Lima, Peru, and accomplished it in a manner that excited great admiration. It should be recorded to the honor of Mr. Meiggs that after he had retrieved his shattered fortunes he returned to San Francisco and paid all the claims he had there incurred in full and with interest. Mr. Meiggs was a man of refined tastes and a connoisseur in music and art. He died in Peru in October, 1877.

#### THE SANDWICH ISLANDS.

Give a brief political history of the Sandwich Islands.  
COLFAX, W. T.  
A. M. VANCE.

*Answer.*—Gaetano, a Spanish navigator, first saw these islands in 1542, but it can not be said that anything was known of them by Europeans until they were visited by Captain Cook in 1778. This discoverer gave the group the name of the Sandwich Islands, after Lord Sandwich, then Chief Lord of the Admiralty, but the inhabitants have always called them Hawaiian Islands, from Hawaii, the name of the largest island. There are ten islands in the group, only four of which are large enough to be of any real importance. Hawaii has an area of 4,040 square miles, and is twice as large as all the others together. When first discovered each of the islands had a king. Though the origin of the Hawaiian race is still a matter of dispute—the weight of the evidence, however, classing them with the Malay tribes—there is no doubt that they are a nation of considerable antiquity. The genealogy of the kings on the island of Hawaii, which has been kept from time immemorial by native chroniclers, has a list of over seventy kings. In 1781, on the death of the reigning king, Kalanio'ku, his nephew, Kamehameha, a young man of much spirit and ability, became head chief of the western part of the island. In self-defense he waged war, first with the other chiefs of his island, and then with the kings of the other islands, and at last brought the whole group under his control, and announced himself king of all the islands in 1809. In the following year he wrote to George III., expressing his desire to acknowledge the King of England as his sovereign and to place the islands under British protection, a plan to which King George readily consented. Kamehameha I. abolished the taboo system and human sacrifices, organized an army and navy, and under him the inhabitants made great advances in civilization. Most of his ideas of enlightenment were learned from the explorer Vancouver, who, while surveying the west coast of British America, spent several winters at Hawaii. In 1819, Kamehameha I. died, and was succeeded by his eldest son, Liholiho, who, on as-



suming the royal power, adopted his father's name as a title, and became known as Kamehameha II. Succeeding kings of his family have all taken the same title. Kamehameha II. visited England with his queen, and both died there in July, 1824. He was succeeded by his brother, who, however, did not assume the royal power until 1833, the kingdom being in the meantime under the regency of Queen Kaahumanu, the dowager of Kamehameha I. Under Kamehameha III, in 1840, the people were granted a written constitution, recognizing the three grand divisions of king, legislature and judges, and in his reign the Christian religion became the established national religion of the islands. Great Britain, France and the United States acknowledged the independence of his government and treaties were made with these and other powers. On his death in 1854, he was succeeded by his nephew and adopted son as Kamehameha IV. After a brief but very useful reign, for he was a man of talent and public spirit, this ruler died in 1863, and the royal power passed to his brother, Kamehameha V. This king changed the constitution, making it more absolute, and the change, after considerable opposition, was adopted by the people. At his death in 1872, the line of Kamehameha I. became extinct. William Lunalilo, one of an old family of powerful chiefs, was elected by the legislature to succeed him. Upon Lunalilo's death in February, 1874, David Kalakaua, the present ruler, was elected in the same manner. The executive power in the Hawaiian Kingdom belongs to the king and a privy council, the latter made up of four governors of the principal islands, and four responsible ministers. The legislative power resides in the king and the parliament, the latter being composed of fourteen nobles and twenty-eight representatives. These two classes discuss and vote together. The judiciary power is in a supreme court, with a chief justice and two other judges, and inferior courts. Suffrage had been universal until the constitution of Kamehameha I, which imposed both an educational and a property qualification.

#### THE ZODIACAL LIGHT.

ALPHA, IOWA.  
What is now the generally accepted theory of the zodiacal light?  
A READER.

*Answer.*—The zodiacal light is the name given to a faint column of light which may be seen rising from the western horizon in clear mornings in the winter and spring, and from the eastern horizon just before daybreak in the summer and autumn. This light really extends out on each side of the sun, and lies nearly in the plane of the ecliptic or earth's orbit. As the course of the ecliptic is, to dwellers in northern latitudes, very near the horizon during the summer and autumn, in those seasons the light is extinguished in the evenings by the thickness of atmosphere through which it must pass. Near the equator, where the ecliptic always rises high above the horizon, the light can be seen about equally well all the year round. It generally is seen to extend not more than 90 degrees from the horizon, but in a clear atmosphere, between the tropics,

has been traced all the way across the heavens, forming a complete ring. This appearance was first called to the attention of astronomers by Cassini about 1683; and for many years the theory was that it was caused by the sun's atmosphere. Laplace was the first to demonstrate that this idea was incorrect, and to advance the theory, now generally accepted, that the appearance is caused by minute meteoric bodies revolving around the sun. Examined in the spectrum, the light emanating from the zodiacal appearance is seen to show not distinct chromatic lines, but a continuous sheen, which shows it to be reflected light only. The orbits of this meteoric matter—for each fragment is supposed to travel in a path distinct from all the others—must be highly eccentric, which accounts for the noticeable difference in the appearance of the zodiacal light at different times.

#### THE CASE OF THE CHINESE. CHICAGO.

Could not the persons implicated in the murders of Mongolians in Wyoming be tried in the United States Court? Could not China demand protection for her citizens here under international law? INQUIRER.

*Answer.*—There can be no dispute as to the moral duty of the government to afford protection to Chinese residents in this country, but there is a difference of opinion as to the extent of its legal obligation. The existence of state governments, which are primarily responsible, is the cause of the difficulty in bringing the matter home to the central government. After the Denver riot of October, 1880, the Chinese Minister at Washington demanded the punishment of the rioters and indemnity for their victims, but Mr. Evarts, the Secretary of State, replied that the United States had no power in the matter, as Colorado was a sovereign State, and the punishment of the rioters was the duty of the State authorities. As to indemnity, he professed to know of no National obligation "which rendered it incumbent on the government of the United States to make indemnity to the Chinese residents of Denver who suffered losses from the operations of the mob." Mr. Blaine, when in the State Department, in reply to a similar complaint of the Chinese Minister, in like measure disclaimed the responsibility of the government, and reminded the Minister that the Chinese-American treaty of 1844 (which guaranteed Americans in China against injury in person or property from mob violence) did not contain "any provision reciprocal with regard to the subjects of China resident in the United States." In President Cleveland's recent message evidently the same view is taken of the government's legal obligation, as indemnity for the sufferers from the Wyoming mobs is urged upon Congress as a matter of benevolence. On the other hand, it should be noted that when subjects of the United States are maltreated in other countries, damages are demanded and exacted, whether the case is covered by treaty or not. For the obligation of a government to protect foreign residents on its territory is founded on the demands of international law, and is not limited by treaty specifications. A number of citations might be made to show this.

Vattel says: "If a nation should refuse or fail to pass the laws necessary to restrain its citizens from aggression upon other states or upon their citizens; or, if such laws being enacted, the officers of the state neglect to enforce them, and such aggressions by individuals result therefrom, the state is unquestionably responsible for the injury." Should this matter, therefore, take the form of a serious international difficulty, it would hardly be possible for the government at Washington to evade its responsibility. It certainly could not thrust the fault upon the State governments, as the individual States are prohibited from having any dealings with foreign powers, and the United States, in all its dealings with other countries, has always acted as a unified Nation, and not as a league of confederated States.

#### WHY STEAM-BOILERS EXPLODE.

ELDORA, Iowa.

What is the explanation of boiler explosions?  
C. F. WOODWARD.

*Answer.*—A boiler explodes because it is not able to withstand the pressure to which it is at the time subjected. This condition of weakness may be caused by any one of a number of causes, as follows: 1. Bad design, as when the boiler has not been properly strengthened by stays and braces; or a deficient water space prevents the proper circulation of the water. 2. Bad workmanship, the riveting or other work of construction being done hastily, or by incompetent workmen. 3. Bad material, blisters in the plate, etc. 4. Excessive pressure, caused by recklessness of the engineer, or by defective steam gauges or inoperative safety-valve. 5. Overheating of the plates, caused by carelessness of the engineer in allowing the water supply to get low and then pumping in upon the too greatly heated plates. 6. Accumulation of scale, mud, or other deposit, which prevents the water gaining access to the iron. This causes the seams to leak and the crown-sheet to bulge or come down, and when this occurs the boiler is in a very dangerous condition, liable to explode at any time. There is really no mystery about boiler explosions; they are always caused by one or more of the above causes. If all boilers were of good design, workmanship, and material, and were managed by none but sober, intelligent, and experienced engineers, such a thing as a boiler explosion would be almost unknown.

#### LONDON BRIDGE.

TRISKILWA, Ill.

Give a history and description of London bridge.  
J. R. MILLS, JR.

*Answer.*—The first London bridge is said to have been in existence since the tenth century. A bridge was built of wood over the Thames in 1014, which partly burned in 1136. Old London bridge, which existed until the beginning of the present century, was built of stone. It was commenced in 1176 by Peter of Colechurch, who belonged to a religious and labor fraternity called "Brethren of the Bridge." Peter died before the completion of his work, and was buried in the crypt of the chapel erected on the center pier, in accordance with the custom of his society, which always provided that any member who died when

superintending an important work should be entombed within the structure. The bridge was completed during the reign of King John, in the year 1209. It was chiefly remarkable for its massiveness and the great amount of material used in its construction. It had twenty arches in a span of 940 feet, with piers varying in solidity from twenty-five to forty feet, so that two-thirds of the stream was occupied by piers, and in low water even a greater proportion, leaving less than one-fourth of the whole span for waterway. Houses were built on each side of the bridge, connected by large arches of timber that crossed the street. In July, 1212, a fire in the city at one end of the bridge brought great crowds of people upon the bridge; the buildings at the other end then caught fire and cut off all way of escape, so that over 3,000 persons were killed, being trampled on, burned, or drowned. In 1300 the bridge was again restored, but was thrice subsequently burned and again rebuilt, in 1471, in 1632, and in 1725. In 1756 all the houses upon the bridge were pulled down. In 1822 the corporation advertised for designs for a new bridge, that made by John Rennie was approved, and the work was executed by his sons, John and George. The first pile was driven 200 feet to the west of the old bridge March 15, 1824; the first stone was laid June 15, 1825, and the bridge was opened by King William IV., Aug. 1, 1831. This bridge is quite an imposing structure of granite, it has a total length of 928 feet, with five elliptical arches, the span of the center arch being 152 feet, and its versed sine 29 feet 6 inches. The cost of the bridge was £506,000.

#### THE ELECTRIC RAILWAY.

CLAY CENTER, Kan.

Describe the electric railway, telling how the electricity is applied to the cars, etc.  
H. S. GALLUP.

*Answer.*—Electricity may be applied to the propulsion of cars in two different ways. In one case the current is supplied to the electro-motors from storage batteries carried by the cars. This method requires no change in the ordinary road-bed used by the steam railway, but no means have yet been invented for making or operating economically the storage battery required. In the second case the current is supplied to the motors on moving trains from stations along the line of the road through properly placed conductors. The method requires a peculiar construction of the road throughout with reference to the necessary electrical conditions. Several different forms of the electric railway are possible, depending on the method by which the current is conducted to the motors. By one method the two rails are used as conductors, the current going out by one rail and returning by the other, and passing to the electro-motors through the wheels of the train, which are insulated. There is much leakage or loss of power in this method, however, and this inventors have essayed to overcome by using a third rail or conductor for the outgoing current, utilizing both rails for its return. We will briefly describe the method of working the Siemens' electric railway, which has been an-



plied successfully to several short railway lines in Europe. The longest of these lines is that between Portrush and Bushmills, in the north of Ireland, which is six miles long. The line is a three-foot gauge, single track, laid at one side of the country road. The third rail, or conductor, is placed beside the road bed, 17 inches above the ground. It is a T-rail carried upon insulator posts. The current is conveyed by the conductor to the car by means of two steel springs, one at each end. Wherever the railway crosses roads the conductor is carried underground. The current from the conducting rail passes through the car to the return rails by a switch worked by a lever—with which resistance coils can be placed in or out of circuit—then through the electromotor to the wheels by which it reaches the rails. The motor is placed in the center of the car, beneath the floor, being connected with the axle of one pair of wheels by gearing. The reversing and brake levers are placed at each end of the car, so that it can be operated from either end. The rails of the track are laid in the usual manner, and are connected with strips of copper to insure good electrical contact. In the Edison and Field railway, which was exhibited at the Chicago Exhibition of Railway Appliances, the same general plan was observed, but the conductor was placed between the two other rails, and the current was conveyed from this rail to the car through stiff wire brushes pressing on each side of the rail. These were operated by a lever reaching down from the car. This track was 1,553 feet in length.

#### THE "IRISH BRIGADE."

**Give a brief history of the Twenty-third Illinois Infantry.**

RESPERIA, Mich.  
H. J. MELVILLE.

**Answer.**—The Twenty-third Illinois Infantry was the famous "Irish Brigade." It was raised by James A. Mulligan, a lawyer of Chicago, and mustered into service in this city June 15, 1861. July 14 it received marching orders and went to Missouri. At Lexington, Mo., where it had been sent to erect intrenchments, the regiment was overpowered by a large force of the enemy Aug. 31, 1861, and taken prisoners. The enlisted men were paroled and allowed to return to their homes, and shortly after the officers were set free in the same manner, Colonel Mulligan alone refusing to accept a parole, and being held a prisoner until the latter part of the year, when he was exchanged. Returning to Chicago, he began the formation of his regiment again, the paroled men having been mustered out of service. The muster-out was revoked, and the regiment was restored by order of General McClellan, and was soon recruited to its full number again. June 14, 1862, it was ordered to the seat of war, and in ten days arrived at New Creek, Va. During the following year it took part in a number of minor battles—Moorefield, Philippi, Petersburg Gap, and others—and won a fine record for the dash and bravery of its men. The regiment was not sent to take part in the battle of Gettysburg, but after that fight it was sent forward to check the retreat of the enemy across the Potomac. The plan was to detain Lee until Meade's army had time to

come up, when the entire Confederate force might be seized. But Meade had taken a different line of march, and, after a sharp engagement, Colonel Mulligan was forced to retreat to Petersburg Gap. During the fall and winter the regiment was engaged in several skirmishes with the enemy in that vicinity. The number of this regiment had been reduced by April, 1862, when it re-enlisted, to 350 men. On returning from veteran furlough, the regiment was attached to General Hunter's army. July 25 it bore a noble part in the battle of Winchester, where its brave commander, Colonel Mulligan, was killed. After this the regiment participated in the campaigns of Sheridan in the Shenandoah Valley, and after the overthrow of Early was transferred to the Army of the James and took part in the last great campaign of Grant. After the surrender of Lee the regiment was sent to Richmond and did duty near that place up to the date of its muster out, in July, 1865.

#### THE ORIGIN OF CHESS.

**Please tell something of the origin of the game of chess.**

WINDSOR, Iowa.  
P. H. KETCHUM.

**Answer.**—So ancient is chess, the most purely intellectual of games, that its origin is wrapped in mystery. The Hindoos say that it was the invention of an astronomer who lived more than 5,000 years ago and was possessed of supernatural knowledge and acuteness. Greek historians assert that the game was invented by Palamedes to beguile the tedium of the siege of Troy. The Arab legend is that it was devised for the instruction of a young despot by his father, a learned Brahmin, to teach the youth that a king, no matter how powerful, was dependent upon his subjects for safety. The probability is that the game was the invention of some military genius for the purpose of illustrating the art of war. There is no doubt that it originated in India, for a game called by the Sanscrit name of Chaturanga—which in most essential points strongly resembles modern chess, and was unquestionably the parent of the latter game—is mentioned in Oriental literature as in use fully 2,000 years before the Christian era. In its gradual diffusion over the world the game has undergone many modifications and changes, but marked resemblances to the early Indian game are still to be found in it. From India chess spread into Persia, and thence into Arabia, and the Arabs took it to Spain and the rest of Western Europe.

#### LONGFELLOW'S FIRST POEM.

**What was Longfellow's first poem?**

BARABOO, Wis.  
M. B. POTTER.

**Answer.**—Some doggerel verses about "Mr. Finney and His Turnip" have been extensively circulated by certain newspapers as Longfellow's "first poem," but the poet himself positively denied their authorship. He no doubt wrote other childish verses, but the first that merited the name of a poem were written and printed when he was at the age of 13. Not far from Hiram, Me., where the boy's maternal grandfather lived lies a small lake known as Lovewell's (or Lovell's)

Pond. It is famous as the scene of a somewhat important event in New England history, Lovewell's fight with the Indians. The story of this fight made a deep impression on the boy's mind, and he embodied his feelings in verse, as follows:

**THE BATTLE OF LOVELL'S POND.**

Cold, cold is the north wind, and rude is the blast  
That sweeps like a hurricane loudly and fast,  
As it moans thro' the tall waving pines lone and drear.

Sighs a requiem sad o'er the warrior's bier.

The war-whoop is still, and the savage's yell  
Has sunk into silence along the wide dell;  
The din of the battle, the tumult is o'er,  
And the war-clarion's voice is now heard no more.

The warriors that fought for their country and bled,  
Have sunk to their rest; the damp earth is their bed;  
No stone tells the place where their ashes repose,  
Nor points out the spot from the graves of their foes.

They died in their glory, surrounded by fame,  
And victory's loud trump their death did proclaim;  
They are dead, but they live in each patriot's breast,  
And their names are engraven on honor's bright crest.

These verses were sent by the boy, over the signature of "Henry" only, to the *Portland Gazette*—his home was at Portland, Me.—and were printed in that paper Nov. 17, 1820.

**AUTHOR OF "THE SWEET BYE AND BYE."**

BARRINGTON, Ill.

Who was the author of "The Sweet Bye and Bye", and when was the song composed?

PETER DAVISON.

*Answer.*—According to one version the poem was written by Dr. S. Fillmore Bennett, now of Richmond, Ill., who, however, was residing in Elkhorn, Wis., in 1868, when this famous song was composed. He was then keeping a drug store at that place, and had published some music in connection with J. P. Webster, the composer. Partly at Mr. Webster's request and partly to relieve a fit of depression Dr. Bennett wrote this poem. Mr. Webster composed the music for it, and it became a general favorite immediately upon its publication. Dr. Bennett was born at Eden, N. Y., in 1836. He came to Illinois in boyhood. He was educated at Ann Arbor, Mich., and received his medical training at Rush Medical College, Chicago. According to the version of Mr. Webster's friends the first verse of the poem and the music were written by J. P. Webster. He sang this verse to the music to Mr. Bennett, who wrote the remaining verses as they now stand. Mr. Webster was given to using expressions like "on the other shore," "In the bye and bye," and one of these expressions suggested the song.

**THE MITRAILLEUSE.**

WILLOWWOOD, Ohio.

Describe the mitrailleuse. Did it prove a success in the Franco-Prussian war? Did the United States ever try it?

J. H. O'NEILL.

*Answer.*—The mitrailleuse is simply a gun in which several barrels are combined in order to produce a greater effect by rapid succession of a number of shots. These guns were made as early as the fourteenth century, and well-preserved specimens of such ancient implements of destruction—then called killing organs—are to be still seen in the arsenals and museums of Vienna,

Rome, Berlin, Moscow, and Constantinople. The Scaligers in the latter part of the fourteenth century, the Protestant princes of Germany in the Smalkaldian war, and Austria in the wars against Turkey, used these guns. But the modern mitrailleuse, which differs from the ancient in the position and dimension of the barrels, was invented by a Belgian about 1864. In 1868 it was adopted by the French government, and was the chief cannon of the French artillery during the Franco-German war, where it was made highly effective. The mitrailleuse of France had thirty-seven rifled barrels, and was loaded at the breech. The American invention of the Gatling gun is on the same principle as the mitrailleuse, and is lighter and more effective. The introduction of this gun into our ordnance made it quite unnecessary for the United States to experiment with the European gun.

**CANADIAN PARLIAMENT BUILDINGS.**

LEMAIS, Iowa.

Give a description of the Parliament Buildings at Ottawa, Can., the grounds, and what they cost.

L. ALLEN.

*Answer.*—The Parliament Buildings at Ottawa, with the departmental offices, occupy three sides of a square, on a bluff of ground called Barrack Hill, overlooking the river. They contain two legislative halls, one for the Senate, the other for the House of Commons, which are of the same size as those provided in the British House of Parliament for the Lords and Commons, and decorated after the same plan. The building is in Italian gothic style, the principal material used being Potsdam sandstone. The main or south front is 470 feet long and 40 feet high, and in the middle, over the principal entrance, stands Victoria Tower, which is 180 feet high and surmounted by an iron crown. In the center of the north front is a semi-detached hall, in polygonal form, 90 feet in diameter, which is appropriated to the library. The corner stone of this building was laid by the Prince of Wales in 1860. Two extensive blocks of departmental buildings are placed like detached wings, forming the sides of the quadrangle in front. The grounds before the building are very extensive and handsomely laid out. The total cost of the building and grounds was upward of \$5,000,000.

**MRS. FRANCES D. GAGE.**

KIRKWOOD, D. T.

Give a sketch of Mrs. F. D. Gage. Where can her poems be procured?

LUCY G. SEDGWICK.

*Answer.*—Frances Dana Gage was born at Marietta, Ohio, Oct. 12, 1808. Her father, Joseph Barker, was a native of New Hampshire who had emigrated to Ohio when the latter State was almost a wilderness. She had but few opportunities for education, and she aided her father at his trade, which was that of a cooper. About 1829 she married James L. Gage, a lawyer of McConnellsville, Ohio. She was an early advocate of abolition and woman's rights, and presided over one of the first woman's suffrage conventions in this country, held in Akron, Ohio, in 1851. In 1853 she moved to St. Louis, but her strong opinions against slavery aroused a very bitter feeling against her there and she returned to Ohio, where she edited an agricultural



paper for a number of years. When the war broke out four of her sons enlisted, and she went South as an agent of the Sanitary Commission, working in the hospitals and teaching the freedmen. She toiled thus devotedly for nearly four years, but refused to take any pay for her services. In 1867 she was disabled by the overturning of her carriage, and after that was debarred from her useful labors and gradually failed in health until the time of her death in 1884. Her poems and sketches for children gave her considerable reputation as a writer, and she also published a novel called "Elsie Magoon." Such of her works as have been issued in book form can be obtained through any bookseller.

#### THE PERCHERON HORSE.

SCRANTON, Iowa.

Give a brief history of the Percheron horse. Are all Percheron horses imported from France true Percherons? What are the most noticeable qualities of the horse?

JOHN MOSUESS.

*Answer.*—The authorities on the history of the Percheron horse do not agree. This horse differs from the true Norman horse in being somewhat smaller and more active. It is claimed that the stock is peculiar to La Perche, a district in France. Some writers assert that it is descended from the pure-blood Arabian horse, crossed with a stock of heavy draft horses existing in that part of France prior to the Crusades. Others say that the Percheron is descended from a remote cross between the Andalusian or Spanish Barb stock and the old war-horses of the Normans, and give this reason for its origin: That the Norman horse, though powerful, was too slow for a fully caparisoned knight, the Andalusian horse was too light, and a cross was effected for the purpose of securing a horse that combined speed with power. On the other hand, some writers apparently well acquainted with the subject say that the Percheron and Norman horses are only different strains of the same breed, and do not differ more than different specimens of other breeds of horses. Mr. Dillon, of Illinois, one of the largest importers and breeders of French horses in this country, says that all the different kinds of French horses come primarily from the Norman stock, which existed there as a distinct breed long before it became scattered over the different districts of France. The Perche farmers, he says, follow largely the business of training omnibus horses for the Paris market, and purchase colts for the purpose in other districts, principally in Brittany. This business has been carried on so long that in Paris all omnibus horses are known as Percherons, regardless of where they were bred or raised. As these horses are, as a rule, somewhat lighter and more active than the heavy draft horses, known as Norman, the same distinction in point of size between Percheron and Norman is held there as here, though in no instance proving a distinct difference in race. How nearly correct either of these two different views may be, we can not say, but it should be noted that in the breeding of the Percheron horse in this country it has shown one important attribute of a pure race, in the capacity of reproducing its distinctive qualities through succes-

sive generations. As to the question whether the horses imported under that name are always true Percherons, it may be said that they probably often are not. The distinct strains which breeders in this country notice of Percheron-Norman and Norman-Percheron, are not known in France. The two breeds of horses are classed together, and as the French utterly ignore pedigrees it would be very difficult to settle any question concerning the origin of individual horses. As to the qualities of the Percheron horse, it is described as exceedingly muscular and powerful, a fast walker, and having good trotting action, and weighing from 1,250 to 1,600 pounds. For hard work on ordinary fare it is unequalled, and will keep in good condition where another horse would die of hard work and neglect. It has wonderful endurance and energy, and is full of spirit, yet is always docile, good-tempered, and easily controlled.

#### THE COLOSSEUM.

IPAWICK, Wis.

Give a description of the Colosseum at Rome. For what purpose was it built, what were its dimensions, etc., and the main facts of its history?

R. A. BRATTON.

*Answer.*—The Colosseum—also written Coliseum—was an amphitheater, located near the center of the ancient city of Rome, and the largest permanent structure of the kind ever built. It was begun by Vespasian, built by him as far as the top of the third row of arches, and finished by his son Titus in 80 A. D. It was dedicated with games, gladiatorial shows, and scenic exhibitions that lasted 100 days, in which 5,000 wild animals were killed, and a number of gladiators. The structure was intended solely for circus performances. It covered nearly five acres, and had accommodations for over 80,000 spectators. It was for many years known as the Flavian amphitheater, but came to be called the Colosseum because of the great size. The building is in the form of an ellipse, its longer diameter being 615 feet, its shorter 510 feet. The height of its outer wall, which is still entire, is 164 feet, and the arena within is 281 feet in length, and 176 in breadth. The exterior wall of the edifice consists of four stories of three different orders of architecture, the first being Doric, the second Ionic, and the third and fourth Corinthian. The material of the principal walls was travertine or whitemarble. The spaces between were filled with brick. The arched spaces between the pillars were open throughout the first three stories, above this there were windows between each alternate pillar of the outer wall. Within there are still traces to be seen of three tiers of seats; it is thought that above these a gallery was once built. A covered space surrounded the central arena, in which the Emperor, Senators, and their families had seats. The building was covered by a temporary awning or wooden roof, but how this was put on or kept in place is a never-ending puzzle to antiquaries. Many of the early Christians suffered martyrdom in the arena, and a cross now stands there to commemorate their death, and on Friday of every week devotional services are

still held there. The Colosseum is supposed to have remained entire till it was partly demolished in the sacking and burning of Rome in 1082 by Robert Guiscard, first King of Naples. Though injured, the building was used as a fortress during the middle ages for many years by the powerful families that contended for supremacy in Roman affairs. In 1312 the municipality took possession of it, and it was again used for public amusements, especially bull fights. In 1387 it began to be used by the church as a hospital. In the following century the great Roman families despoiled it greatly, taking stone from its wall to build their palaces. It was afterward proposed to turn it into a center of trade or a factory, but both plans were unpopular, and finally Pope Clement XI was persuaded by the church in the early part of the eighteenth century to consecrate it to the memory of the martyrs, and thus throw over it a protection from further wanton injury.

#### FORMS OF EUROPEAN GOVERNMENTS.

Name the forms of each of the governments of existing European nations. What are the two republics, and which is consolidated and which is federal?

ELKHART, Ind.

ADAM YODER.

*Answer.*—There are four federations among the European governments. A federation is a government in which the central authority is supreme in all international affairs, but limited in internal administration, as our own government is. A federation may be either a monarchy or a republic. Of the federations of Europe Switzerland is a republic, Germany is an empire, and Sweden-Norway and Austria-Hungary are what are called bipartite states, having the same monarchy but governed by separate constitutions and legislatures. The other European governments all belong to the class that modern political historians call unified states, that is, states in which the central government is responsible for the administration of public affairs in all parts of the country. It is true that in some of the constitutional governments, as England and France, local affairs are left largely to local authorities, but this does not lessen the responsibility of the central government, which is empowered to overrule any local body at any time in behalf of what it may regard as the public good. Of the unified states in Europe, ten are constitutional monarchies—Great Britain, Belgium, Portugal, Spain, the Netherlands, Denmark, Italy, Greece, Serbia, and Roumania; two are despotisms, Russia and Montenegro; three are republics, France and the tiny states of San Marino and Andorra, and two are tributary states, Bulgaria and Eastern Roumelia.

#### FORTY-SECOND ILLINOIS INFANTRY.

SHEMANDOAH, Iowa.

Give a brief history of the Forty-second Regiment of Illinois Infantry.

A. HODGES.

*Answer.*—The Forty-second Regiment of Illinois Volunteers was organized at Chicago, and mustered in Sept. 17, 1861, 1,031 strong, Colonel William A. Webb, commander. It immediately went to St. Louis, and, Oct. 18, was sent to join General Hunter at Tipton, Mo. Dec. 13 it went into winter quarters at Smithton, Mo., and left

that place Feb. 3, 1862. March 4, it occupied Fort Holt, Ky., and March 15 proceeded to Island No. 10, where it remained until the capture of that point. April 17 it left Fort Pillow for Hamburg, Tenn., and May 4 took part in the battle of Farmington. It took part in the siege of Corinth, but saw little active service until it set out on the Murfreesboro campaign in December. It was at the battle of Stone River where it lost 138 in killed and wounded, and eighty-five taken prisoners. In the following spring it took part in the pursuit of Van Dorn. Sept. 2, 1863, it entered upon the Chattanooga campaign, and at the battle of Chickamunga fought bravely, losing 156 in killed and wounded and twenty-eight prisoners. It was on the skirmish line during the battle of Mission Ridge. Jan. 1, 1864, the regiment re-enlisted. In February it returned to Chicago on veteran furlough, reorganizing April 2, and starting out on its return to the scene of warfare. It reached Chattanooga April 27 and immediately entered upon the Atlanta campaign, taking part in all the battles until the capture of Atlanta, Sept. 8. On Sept. 25 it left to join General Thomas, and was present at all the engagements with Hood's army. Jan. 1, 1865, it started for Decatur, Ala., where it remained until April 1, when it set out for Nashville. June 15 it was sent on to New Orleans, and thence went to Lavaca, Texas. It was on post duty at Lavaca and Camp Irwin until Dec. 16, when it was mustered out and ordered home. Jan. 10, 1866, it received its final discharge at Springfield, Ill.

#### EQUATION OF TIME.

DOUGLAS, Ill.

Why is it that the sun and a correct time-piece only agree at noon four times in the year; that is, on only four days in the year is it just 12 by the clock, when the sun is due south?

W. H. FAULDS.

*Answer.*—As the orbit of the earth is not circular, but elliptical, with the sun in one of its foci, the earth's distance from the sun varies at different seasons of the year. This prevents the motion of the earth in its orbit from being uniform, as it moves faster when nearer the sun, and slower when farther from it. Therefore the sun's apparent motion in longitude, which is caused by the earth's real motion in the ecliptic—that is, the plane of its orbit—is not uniform. This want of uniformity would of itself obviously cause an irregularity in the time of the sun's coming to the meridian—that is, to the noon line—on successive days, but besides this, there is another cause that affects the regularity of the sun's apparent motion, and that is the obliquity of the ecliptic to the equinoctial or celestial equator. Even if the sun moved in the equinoctial, there would be an inequality in this respect, owing to its want of uniform motion; and even if it moved uniformly in the ecliptic, there would be such an inequality, owing to the obliquity of its orbit to the equinoctial. These two independent causes produce the irregularity in the time of the sun's appearance on the meridian, and the correction of this irregularity is called the equation of time. When the sun's center comes to the meridian it is apparent noon, and if it moved



uniformly on the equinoctial, this would always coincide with "mean noon," or 12 o'clock, on a good solar clock. But from the causes which we have explained, mean and apparent noon differ, the latter taking place sometimes as much as 16½ minutes before the former, and at others 14½ minutes after. The differences for every day—that is, the equation of time—are given in all astronomical almanacs. This difference is nothing at four different times in the year, when the mean and unequal motions exactly agree—about April 15, June 15, Aug. 31, and Dec. 24. At all other times the sun is either too fast or too slow for clock time.

#### THE VALLEY OF DEATH.

TERRE HAUTE, ILL.

Where is the Valley of Death? Give a brief description of it. C. R. G.

*Answer.*—The place known as "the valley of death," or "the poison valley," is on the island of Java. It is the most remarkable natural example of an atmosphere loaded with carbonic acid gas in existence. It has never been fully explored, because of the danger of remaining more than a few moments in its poisonous atmosphere. It is a hollow, near the summit of a mountain range, only to be reached by a long climb up the hillside. Approached through an opening between the hills it is seen to be an oval shaped valley, about half a mile across. It is about thirty-five feet deep, the bottom is hard and sandy, without vegetation, and strewn with many large stones. Throughout, the surface is almost covered with the bleaching bones of animals, tigers, pigs, deer, and others, all kinds of birds, and also of human beings. Explorers of the valley seldom venture beyond the borders, though it has been proved that the deadly air does not immediately affect human beings. This is because the carbonic acid gas, being heavier than the atmosphere, settles to the bottom of the valley. Dogs and fowls thrown into it fall senseless instantly and die in a few minutes. No craters or fissures are visible on the floor of this valley, and it is thought that the openings are near the base of the rocky hills surrounding.

#### THE RAINBOW.

VERMILION, Kan.

Will Our Curiosity Shop tell why the rainbow is circular? A. J. TUCKER.

CARTERSVILLE, Ill.

A rainbow can sometimes be plainly seen on a foggy morning, when the sun is obscured, but it lacks the colors. Please explain this. W. F. KEASTER.

*Answer.*—A rainbow occurs when the sun or moon, not too far above the horizon, throws its beams upon a sheet of falling raindrops on the opposite side of the heavens. Thus, a ray of light from the sun strikes a raindrop obliquely; part of it is reflected at the surface of the drop, the rest, passing into the drop, is refracted; on the other side of the drop part of the ray passes through and the rest is again reflected; on passing from the drop on the same side that it entered, a second refraction occurs. These successive reflections and refractions separate the ray of white light into its component colored rays, and as the angles of incidence and emergence vary for each color, the eye of a spectator

perceives them as distinct bands. Now, every drop in the sheet of falling water which has equal obliquity to the spectator's eye, will send to it rays of the same color. But, the only drops which can fulfill these conditions of like obliquity of reflected rays, are those which define the base of a cone whose apex is the eye, and the center of whose base is in a right line, passing through the sun and the eye of the spectator. A rainbow can only be seen when the spectator stands between it and the sun; its center must always be directly opposite the sun, moving with the sun's motion, falling if the sun is rising, and rising if the sun is declining. At or near sunset, when the sun and the observer are in the same horizontal plane, the bow will be seen to form a complete semicircle; when the sun is higher in the sky, a smaller arch is seen; the entire circle could only be visible to a spectator on the top of a very high and narrow mountain peak, which elevated his plane much above that of the sun's rays, but did not cut off their light. A complete circle may also sometimes be seen in the rainbow formed by the sunlight on the spray arising from cataracts. When the sheet of falling drops is large, and the sunlight very bright, the double rainbow is seen. When the sun is obscured by fine rain or fog, the rainbow proper is replaced by a bow formed by the reflection and interferences of light from these fine particles of water. This bow is, of course, without the colors. A lunar rainbow is also colorless.

#### DIAMOND MINES OF BRAZIL.

PHILO, Ill.

Give a description and history of the diamond district of Brazil, in South America, and mention some of the remarkable diamonds found there. L. C. REED.

*Answer.*—The diamonds of Brazil are all found in a disintegrated stratum of quartzite, lying upon the sandstone formation. This gem-producing soil—for precious stones of nearly all kinds are found in it—extends along the Serra do Espinhaco as far as the northern borders of the province of Minas, along the valley of the Upper Belmonte, and in the interior of the province of Bahia, as well as in the mountains that lie southwest of the sources of the Sao Francisco. Diamonds of smaller value have been found in the province of Goyaz (on the Rio Claro); in Matto Grosso, in the valley of the Paraguay; in Parana, on the Rio Tibagy; and in two provinces on the Rio Grande. The richest diamond-producing region is that in the Minas, where are the celebrated mines of Serra do Frio, and next to this in importance comes the district in Bahia. The discovery of these important mines was an accident. A Portuguese traveler, in 1727, while visiting the gold mines of the Serra do Frio, about 400 miles north of Rio Janeiro, noticed some bright crystals which the ignorant miners occasionally picked up and treasured as trifles. Taking some of these he showed them to some Dutch traders, who at once recognized their value. These traders immediately contracted with the Brazilian government for all the rough diamonds that might be found, and for a number of years controlled the trade. The

Portuguese then shared it with them for some time, and the diamond mines were so extensively worked for a number of years, and such abundant supplies of the gems were thrown on the market, that their price fell heavily, and diamond dealers all over the world were terrified. The panic was checked by the Brazilian government, which claimed the working of the mines as a royal monopoly and restricted the supply of gems mined. In recent years, however, the most of the mines have been sold to private individuals. The mode of obtaining the diamonds is by washing. The miners dig down into the diamond stratum; the quartzite sand, or the gravel, as they take it out, is washed free from earth in shallow wooden pans. The gravelly deposit left is then passed through a sieve, and the diamond crystals, if any are there, are readily found in the process. Generally speaking, the diamonds mined in Brazil have been small, but a few remarkable gems have been found in them. One of the most important of these is the Star of the South, which was found by a negress in the mines of Begagem in 1853, and which weighed in its rough state 254 karats. It was purchased after being cut by a jeweler in Amsterdam, Germany, by a wealthy nobleman of that country. Another fine gem was found in the river Aethie, in 1797, by some convicts who had escaped from prison and were hiding in the mountains. It weighed 138 karats, and was sent to the King of Portugal, who, in return for the treasure, pardoned the convicts. A few diamonds over 100 karats in weight have been found in Brazilian mines, and quite a number over fifty karats, but the average weight has been from one to four karats. The aggregate diamond yield in Brazil has fluctuated greatly, in past times ranging from 20,000 or 30,000 karats annually to as high as 600,000 karats. Though the trade in diamonds is generally supposed to be an important part of the country's commerce, it is really only a small fraction of 1 per cent of the total trade. It averages something over \$2,500,000 annually, while the yearly exportation of sugar alone is about \$17,000,000, and of coffee over \$53,000,000.

#### THIRTEENTH ILLINOIS CAVALRY.

Would like a sketch of the Thirteenth Illinois Cavalry.  
C. CALHOUN, III.  
J. P. ROBINSON.

*Answer.*—The Thirteenth Illinois Cavalry was organized at Camp Douglas, Chicago, and mustered into service Dec. 31, 1861, Colonel Joseph W. Bell commanding. It was equipped and mounted at Benton Barracks and immediately sent into Southeastern Missouri and Arkansas on a scouting expedition. In June it joined General Curtis at Batesville and went with him to Helena, where it arrived July 13. In the fall it returned into Missouri and spent the winter and spring skirmishing with Marmaduke's men. In May, 1863, the original eight companies were consolidated into one battalion of three companies. In July it went with General Davidson into Arkansas, and was present at the fights of his campaign, being one of the

first regiments to enter Little Rock at its capture. In February, 1864, nine new companies were added to the regiment, and it was thoroughly reorganized. In the spring following it went with General Steele's expedition to Camden, Ark. It spent the entire year scouting and skirmishing through Arkansas. Jan. 24, 1865, the cavalry division of the Seventh Army Corps, in which this regiment was serving, was discontinued, and the Thirteenth Illinois Cavalry was stationed at Pine Bluff, Ark., raiding through the surrounding country until the close of the war. It arrived in Springfield for discharge Sept. 13, 1865. The losses of this regiment by death during its service were 376.

#### THE LOWER MISSISSIPPI LEVEES.

Give a history and the cost of levees of the Lower Mississippi. Were they built by State or National appropriation?  
CHICAGO.  
M. F. KITTENHOUSE.

*Answer.*—The first levees ever built on the Mississippi were erected in New Orleans in 1717. For a hundred years the construction of these necessary protections was entirely in private hands, each planter building what he needed to keep his own land from being flooded. It must be remembered that the entire country from Cairo to the Gulf of Mexico is, on the west side, for an average width of fifty miles besides the river bed, nothing more nor less than a delta, that is, a country permeated by mouths of the river, emptying into bayous and small lakes. On the east side, the whole area between the Mississippi and the Yazoo, 60 miles in width, is a network of bayous and small streams. Before attempts were made to curb the river waters with embankments all this country was submerged for weeks, or even months every year, for the bed of the Mississippi has always been very shallow, and even a moderate rise of water would carry it quite above its banks. In 1823 the State of Louisiana began to aid in the work of "fencing" out the floods. It built strong and high embankments, cutting off the side channel of the river and confining its waters to its own bed. By 1844 every old inlet for 600 miles up the river had been closed. In 1850 a topographical survey of the whole Mississippi River was ordered by Congress, the report of which was not published until 1861. At that date, the river on the east side to the Tennessee boundary was lined with levees, and one of great magnitude was built across the Yazoo pass, dividing the tributaries of the latter river from the Mississippi delta, while on the west side embankments had been built as far as the mouth of the Arkansas, and one, twenty-five miles in length, across the St. Francis Valley, was partially erected. Up to this date—February, 1861—Louisiana had spent \$24,000,000 in levee work, Arkansas \$1,000,000, Mississippi \$14,500,000, and Missouri \$1,640,000. Private individuals had spent upwards of \$41,000,000, and this estimate does not include cost of repairing and maintaining these protections, which was about \$2,000,000 annually. The report of the United States survey recommended building all the levees higher, and the appropriation of \$17,000,000 for this purpose.



but the outbreak of the war for the Union, a few months after the report was made, postponed indefinitely any National action in the matter. No more attention was given by Congress to the subject until June, 1874, when another board of commissioners was appointed to investigate and report upon the condition of the Mississippi river. In 1875 this committee reported at length a plan for a permanent system of levees, to cost probably \$50,000,000. This plan has not been undertaken, as Congress has not yet consented to the necessary appropriation. However, the General Government has expended an average of over \$1,000,000 annually since 1874 in repairing the levees, in addition to large sums spent for the same purpose by the State governments.

## THE AMAZON RIVER COUNTRY.

NEW ROCKFORD, D. T.

Tell something about the Amazon River country, its products and geographical features.

C. B. Goss.

*Answer.*—The Amazon is a vast river system, rather than one river. More than 350 branches and smaller tributaries unite in the one grand trunk of this mighty stream, which drain over 2,500,000 square miles of territory—an area equal to two-thirds of Europe—and are estimated to afford an inland navigation of 50,000 miles, a line double the circumference of the globe. The total length of the main stream from the head waters of the Huallaga is 3,944 miles. Though not the longest, the Amazon is the most voluminous river in the world. Every second it empties into the ocean at its mouth 500,000 cubic feet of water, whose freshening influence is perceptible 500 miles from the coast. This river is subject to periodical inundations, its high banks being overflowed every spring and vast tracts of country submerged. These floods interfere much with the building up of towns on the river, but they render the great Amazon Valley, walled in on both sides by highlands, the most fertile country on the globe. Most of it is still covered with vast forests. "From the grassy steppes of Venezuela to the treeless pampas of Buenos Ayres," says Professor Agassiz, "expands a sea of verdure, in which we may draw a circle 1,100 miles in diameter which shall include an evergreen, unbroken forest. There is a most bewildering diversity of grand and beautiful trees, a wild, unconquered race of vegetable giants, draped, festooned, corded, matted and ribboned with climbing and creeping plants, woody and succulent, in endless variety. The exuberance of nature displayed in these millions of square acres of tangled, impenetrable forest, offers a bar to civilization nearly as great as its sterility in African deserts." The most important of the trees to commerce are the dyewoods, the India rubber tree and the Brazil nut. Rosewood and other beautiful woods for carving are also found in great number and variety. Wild animals, mammals, birds, and reptiles are scattered through the forest in great variety, but not many in any one place. The river, however, abounds in life, fishes, alligators, turtles, and water snakes. Professor Agassiz found 1,300 species of fish during his five months' stay on the

Amazon, nearly 1,000 of them unknown elsewhere. The shores of the river are but thinly inhabited with human beings, there being but a few scattered tribes of Indians and very few white settlers, as the warm, moist climate is almost deadly to the white man. The largest towns are Para, Santarem, Manaus, and Ignitos. Para, near the mouth, is much the largest, having 30,000 inhabitants. Among the most important exports sent down the Amazon are India rubber, cocoa, cotton, coffee, nuts, palm-fiber, sugar, indigo, cabinet woods, and various medicinal products, woods, extracts, etc. Steamboat navigation on the Amazon began in 1853. In that year the Amazon Navigation Company, a commercial association, aided by the Brazilian government, sent its first steamer from Para to Nauta in Peru. Since 1867, the river has been open to the trade of all nations.

## A FAMOUS BLIND DEAF MUTE.

EDEN, N. H.

Would like a sketch of Laura Bridgman.

JOHN A. WINDSOR.

*Answer.*—Laura Bridgman was born in Hanover, N. H., Dec. 21, 1829. She was a bright infant, but in her second year had a violent illness, which wholly destroyed the senses of sight, hearing, and smell, and greatly impaired that of taste. Though her general health was so shattered by this sickness that she was almost helpless for several years, she subsequently recovered her strength, and had apparently so much intelligence, though shut in a realm of darkness and silence, that she was, in her 10th year, put under the care of Dr. Howe, who then had charge of the deaf and dumb school at Boston. There she was taught to read by touching raised letters, then these letters, framed into words, were attached to objects, and she thus learned to know objects by their names. Thus far, however, the work was only an exercise of imitation and memory, and was like teaching a clever dog a variety of tricks. But all at once the truth seemed to flash on her that by this means she could make known to others what was in her mind, and this knowledge seemed to change her whole being. Her sympathetic teachers procured for her a set of metal types, with the letters cast at the ends, and a board with square holes for their insertion, so as to be read by the fingers when placed. In a few months she could spell the names of most common objects, and in a year had made great mental improvement. She would amuse herself for hours with these letters, spelling old and new words, and framing imaginary dialogues, and became much happier and full of enjoyment in her play. Her hand grew in accuracy as her knowledge increased, so that she could recognize persons, fabrics, colors, etc., by the touch alone. In a few years she was able to receive lessons in geography, algebra, and history, and learned to write a fair, legible hand. She carried on animated conversations with her teachers and friends by means of the finger alphabet, the movements being made by the hands of others placed upon her own as she could not see them. She became a most

skillful teacher of the blind, and was for many years an instructress in the Perkins' Institution for the Blind, in Boston. She still spends much of her time in that institution. She is a very skillful performer on the piano, is quite dextrous in many kinds of household work, and is an adept in plain and fancy needlework, and can run a sewing machine as well as any one. In spite of her great affliction Miss Bridgman always seems happy and contented. Her case affords one of the most remarkable illustrations of what can be accomplished by modern philanthropic systems of education.

#### COST OF THE WORLD'S STANDING ARMIES.

Give table showing standing armies of the world, their annual cost, and cost per capita to the inhabitants of the country supporting them.

STORY CITY, IOWA.

R. W. BALLARD.

*Answer.*—The following table gives the information desired, according to the latest figures:

COUNTRIES.	Regular army.	Annual cost of army.	Cost to each inhabitant.
Austria-Hungary...	284,071	\$49,116,248	\$1.30
Argentine Republic	7,518	5,800,000	2.41
Belgium.....	47,084	9,208,046	1.66
Bolivia.....	3,021	2,148,000	1.03
Brazil.....	13,500	7,466,120	.73
Canada.....	2,000	3,840,000	.88
Chili.....	13,926	16,326,095	6.80
China.....	300,000	75,000,000	.17
Denmark.....	35,727	2,461,955	1.17
France.....	529,269	121,061,600	3.23
Germany.....	445,402	84,968,140	1.88
Great Britain.....	181,971	90,901,630	2.57
Greece.....	29,368	3,312,140	1.67
British India.....	190,476	87,201,250	.34
Italy.....	750,765	41,098,611	1.44
Japan.....	37,790	9,263,713	.25
Mexico.....	22,330	8,252,352	.87
Netherlands.....	65,113	8,464,000	2.08
Norway.....	18,750	1,628,440	.90
Persia.....	30,000	3,000,000	.54
Portugal.....	33,994	5,099,105	1.12
Roumania.....	19,512	5,463,550	1.01
Russia.....	780,081	125,508,474	1.27
Servia.....	18,000	2,072,890	1.21
Spain.....	152,895	24,524,415	1.47
Sweden.....	40,758	4,322,860	.94
Switzerland.....	117,500	3,341,260	1.17
Turkey.....	160,417	23,841,064	.95
United States.....	26,383	39,429,603	.78

#### SWEDEN AND NORWAY.

LANSING, IOWA.

Give a sketch of the government and political relations between Sweden and Norway. N. J. ALMQUIST.

*Answer.*—The Kingdom of Sweden and Norway is a simple federative monarchy. The union between its two parts came about early in the present century. By the treaty of Kiel, Jan. 14, 1814, Norway was ceded by Denmark—by whose sovereign it had been previously ruled—to the King of Sweden. This cession the Norwegian people refused to recognize, and declared themselves independent. They chose delegates to a constituent assembly, which met at Eidsvold in May, adopted a constitution and elected a king. Sweden, however, raised an army and proceeded to occupy the country by force, and as the European powers refused to recognize the new government the Norwegians were obliged to yield. Aug. 14 the convention of Moss was held, by

which the independence of Norway in its union with Sweden was solemnly proclaimed. An extraordinary storting, or constituent assembly, was then called, which formally accepted the union, adopted such modifications as were necessary, and elected King Charles XIII. King of Norway. The following year the charter of union, or Rikssact, was promulgated, which established new fundamental laws on the terms that the union of the two kingdoms should be indissoluble and irrevocable, without prejudice, however, to the separate government, constitution, and code of laws of either Sweden or Norway. The two states are thus united in the person of their sovereign only. There is a united diplomatic service, it is true, but this is simply the representative of the sovereign abroad. There is also a Council of State, composed of representatives from both kingdoms, which decides upon affairs common to both; but this is simply a committee of conference, or advisory board, and exercises no power except in the case of minority of the king, when it is to hold sovereign power until a regent has been appointed by the united action of the Parliaments (or Diets) of the two states. Should the succession to the throne fail, the two Diets must assemble to elect a new sovereign, and should they be unable to agree upon one person, an equal number of Swedish and Norwegian deputies must meet at the city of Carlstad, in Sweden, to choose a king, and their choice is to be absolute.

#### HISTORY OF VENICE.

THEODORE D. T.

Give a sketch of Venice, Italy. When was it first settled, and by whom? What was the form of its early government, and when did it become subject to the Austrians?

HELEN CHOLLAR.

*Answer.*—Nothing is known of the origin of the earliest inhabitants of the territory of Venetia. They inhabited the district long prior to the Christian era, bore the name of Veneti, and the very earliest record of them represents them as a commercial community, taking but little part in the contentions of neighboring barbarous tribes. They carried on a trade in amber, which they brought from the shores of the Baltic and sold to the merchants of Phœnicia and Greece. They became subject to the Romans in 215 B. C., forming with the latter people an alliance which greatly contributed to their prosperity. About 181 B. C. the Veneti founded the town of Aquileia, which soon became a large and flourishing city. The province at this time contained also Padua, Verona, and other important towns. But in the declining days of the empire the prosperity of the province was swept away by an invasion of the Huns under Attila. In 452 A. D. these hordes razed the buildings of Aquileia to the ground and devastated every city of the territory. Many of the inhabitants of these cities, fleeing from their ruined homes, sought shelter in the marshy lagoons and islands in the northern part of the province. Here was a situation protected from invasion from the mainland by a wide tract of muddy shallows, and secured from attack by sea by the shallow water and narrow passages be-



tween the islands; and here was laid by these wretched but not wholly disheartened refugees the foundation of the mighty city of Venice. The early settlers devoted themselves mainly to fishing and the manufacture of salt. The new settlement was commonly known as Venezia—or, as we have it, Venice—as early as the seventh century, though it did not formally take the name until about 812, when the islands were connected by wooden bridges and the seat of government was permanently fixed on the island of Rialto. The first form of government of this island commonwealth was republican, administered by a consular triumvirate, but in the year 457 the consuls were superseded by tribunes, who, elected annually and varying in number from one to twelve, administered the government for 340 years. But during this period, although the young republic grew in wealth and population, it gained but little in political importance. Society was divided into factions by the ambition of the rival tribunes, and in time of warfare united action was impossible. In 697, at the meeting of the apenço—which was the periodical convention of all the adult male population of the commonwealth—one of the patriarchs proposed that the tribunes should abdicate sovereign power, and that a magistrate, with the title of duke or doge, in whom should be vested individual authority in civic, ecclesiastical, and military matters, should be placed over them. The proposition was received with favor, and the first doge was immediately chosen, and invested with the insignia of this office, a crown of gold and a scepter of ivory. Under this new form the government was much strengthened, and the business of ship-building, stimulated by the ambition of Venetian merchants to engage largely in foreign trade, soon began to assume such proportions as to add greatly to the influence of the commonwealth. From the eighth to the sixteenth century Venice was the almost unquestioned mistress of the seas, her galleons visited every port of the known world, and her trading stations, established at every important commercial point, were unfailing fountains, feeding the wealth and magnificence of the great and beautiful city. The fleet of Venice took an important part in the Crusades, but the object of the expeditions seems rather to have been to extend Venetian commerce than to aid in overthrowing the Saracen's power. In 1122 the Byzantine Emperor decreed the banishment of all Venetian merchants from his dominions, and the suspension of all trade with Venice. In reprisal a Venetian fleet took the city of Rhodes, and seized and plundered all the Ionian islands and cities on the coast, forcing the Emperor of the East to withdraw his decree. In 1124 and 1125 a Venetian expedition also gave important aid in the siege and capture of the city of Tyre. In 1177 the Venetians won an important naval victory over the Ghibellines in defense of Pope Alexander. It was in consequence of this victory that, at the suggestion of the Pope, the ceremony of "wedding the Adriatic" was instituted. In the thirteenth century Venice was in undisputed possession of a large number of the islands of

the Mediterranean and many important cities on the mainland. Her people were at that time the wealthiest and most polished community of the world. In that century the Electoral College was established with forty-one members, twenty-five of whose votes were made necessary for the choice of a doge. In the year 1335 the famous Council of Ten was established. In the year 1348 occurred a terrible earthquake which destroyed many buildings, and the same year came the plague which raged for six months and carried off two-fifths of the population of the city. These misfortunes were followed, however, by a century of remarkable commercial prosperity for Venice and success in every warlike venture. But about the close of the fifteenth century the wane of her power began. The carrying trade that once belonged wholly to Venetian vessels passed into the hands of the Portuguese, Dutch, and English, and the success of these powers on the sea soon showed that Venetian naval superiority was a thing of the past. Through the sixteenth and seventeenth centuries the wealth of the republic was wasted in unnecessary and profitless wars, and the government had been usurped by a tyrannous and exclusive oligarchy. Long before the invasion of Napoleon in 1796, Venice had become worn out and corrupt. The government of the Council of Ten was a reign of terror, the nobles had become mere idle pleasure-seekers, the common people were overtaxed and degraded, and all the ancient vigor, ambition, and hardihood of the people seemed to have perished. Napoleon overthrew the feeble government and annexed the province to Austria by the treaty of Campo-Formio in 1797. In 1806 the city of Venice, with its territory, was annexed to Italy; in 1814 it was again transferred to Austria; in 1866 it was ceded to and incorporated with the kingdom of Italy.

#### LANGUAGE.

CUMMINGS, III.

Give a brief history of languages, the cause and origin of different languages. What is the most ancient language of which we have any record? Are the respective ages of different modern languages known? How many distinct languages and dialects are there?

Mrs. H. H. KLEINMAN.

*Answer.*—All study into the subject tends to show that language is a spontaneous product of human nature—a necessary result of man's physical and mental constitution, and altogether independent of his will. But while the cause of language itself is unquestionably subjective, its differences are probably objective, that is, caused by man's environments or surrounding circumstances. The study of the structure of language shows its age and its degree of development. Speech can be divided into two great parts; words that indicate ideas, and words that show the relations of ideas to each other. At the foundation of language lie roots—that is, simple sounds expressive of meaning. Now all languages, in their earliest stages, undoubtedly used these roots in their naked forms as words, the same syllable, according to its position, serving as different parts of speech. This is the case with the Chinese language still. The relations of ideas, in that tongue, have almost no vocal expression whatever, they

are wholly indicated by position. We may therefore say that the Chinese language was arrested in a very rudimentary stage of development, and that it is in its form the oldest language known. The Thibetan, Siamese, Anamese, and Burman languages are like the Chinese in this respect, and are classed as monosyllabic languages. The Japanese and Korean tongues are much like the Chinese, but are much more developed in structure. The second great class of languages includes those in which relations of ideas are expressed altogether by separate roots joined to the significant roots as terminations. These are called the agglutinate languages, and include (1) the Turanian tongues, which comprise the Turkish and the Tartar dialects, and all the dialects spoken by the Siberian tribes and by the aborigines on the islands of Oceania; (2) the African languages; and (3) the languages of the American Indians. The third great class of languages is known as the inflectional, and includes the great body of civilized tongues. These are divided into two families, the Aryan and the Semitic. The oldest of the Aryan languages is the Sanscrit, a dead language of India; the oldest of the Semitic is not so certainly known, but probably the ancient Chaldee may be thus classed. To the Semitic family of tongues also belong the dead languages of the Hebrews, and of Ethiopia, Syria, and other countries of Western Asia; also, the living dialects of Arabia, Syria, and those still used by the Jews. The dead languages of the Aryan family include the Sanscrit, as we have mentioned, classic Greek and Latin, and all the perished tongues of Europe. In the living tongues of this family are comprised the Armenian and kindred dialects of Asia Minor, the Slavonic, Teutonic, Saxon, and all other groups of languages used by the civilized nations of Europe and America. It would need a volume to trace the supposed relative ages of these tongues, as stated by different philologists—for as these matters can only be settled by minor points of grammatical structure, students of language are by no means agreed concerning them—and to indicate those which are contemporaries in origin, and those derived from others. There are not less than several thousand different languages and dialects used in the world; the exact number is not known.

#### LEMON TREES—IMITATION IVORY.

PATERSONVILLE, IOWA.

1. Tell something about lemon trees. At what age do they bear when raised from the seed? Will they bear earlier if grafted? 2. How is imitation ivory made?

R. MOULTON.

*Answer.*—1. When raised from the seed the lemon tree matures very slowly even in a favorable climate, being about eight or ten years usually in coming to the time of bearing. The time can be shortened but little by grafting. The usual method, in countries where the tree is indigenous, is to take up young wild trees and set them in prepared ground, and then bud them with an improved variety of the fruit. The lemon tree is often grown in conservatories, and, with any sort of careful treatment, will flourish. The tree should have a good open soil, and when not in a growing state during the winter needs but little

water; new growth begins very early in the spring, when the plant should be watered freely, kept in a warm place, and when the young wood has hardened it should be set out of doors, and kept in a sunny place and sheltered from violent winds during the summer. The plant blossoms in the spring, and the fruit should be allowed to hang upon the tree during all of the following winter to attain its full maturity. 2. There are several recipes for making artificial ivory. One kind, much manufactured in France, is a compound of gelatine and alumina. Tablets of gelatine or glue are immersed for some time in a solution of alumina in acetic or sulphuric acid. The alumina is absorbed from the acid into the gelatine, which is then removed and dried. It becomes very hard, so that it can take on a high polish. Another preparation called artificial ivory is made by working together bone or ivory dust with an equal portion of albumen or gelatine to form a paste, which is rolled into sheets and dried. Another method, like the first mentioned, a French invention, is to take two parts of caoutchouc and dissolve in thirty-six parts of chloroform and saturate the solution with pure gaseous ammonia. The chloroform is then distilled off at a high temperature. The residue is then mixed with phosphate of lime, pressed into molds, and dried. This is one of the best imitations known, possessing largely the nature and composition of true ivory.

#### THE SELF-REGISTERING THERMOMETER.

ST. JOSEPH, MICH.

What is the principle of the self-registering thermometer?

*Answer.*—The various self-recording thermometers may be divided into two classes—those which record only the maximum or the minimum of the temperatures occurring in any definite period, and those which produce continuous records. A maximum thermometer can be readily constructed thus: The tube of an ordinary mercurial thermometer is made with a constriction at about the middle point of its length. This thermometer is then placed in a horizontal position, and as long as an increase of temperature takes place small portions of the mercury will go in a series of jumps across the constricted passage; but on a fall of temperature the mercury contracts strongly into the portion of the thermometer below the constriction, leaving a column of mercury above it. The upper end of the latter column marks the highest point reached during the time of exposure. This instrument is readjusted by swinging it, until the mercury is thrown back into the space below the constriction. A well-known "minimum" thermometer is that of Rutherford, which is made of alcohol contained in the ordinary glass bulb and tube. In the column of alcohol is a small index, made of black glass. The instrument is first tipped until the piece of glass slips up to the end of the fluid column, and is then placed carefully in a horizontal position. As the temperature falls, the top of the liquid column carries the glass index down with it, and leaves it at the point which indicates the minimum temperature reached during the exposure of the instrument.



The continuous record thermometer sometimes has a tracer attached to a simple or compound metal bar, which marks a continuous line on a cylinder revolving once in twenty-four hours. In another kind the record is made by the aid of photography. A continuous impression of the image of the top of a thermometric column is obtained by illuminating a thermometer placed in front of the lens of a camera, the image being formed on a sensitized plate behind the camera, this plate moving, by the aid of some mechanism, a regular distance of a few inches each hour.

#### GRAND CANAL OF CHINA.

IOWA FALLS, IOWA.

Tell something about the Grand Canal of China. When was it made?

MIL0 HUNT.

*Answer.*—A part of the Grand Canal of China, that connecting the Hoang-ho and the Yang-tse-Kiang rivers, was made as early as the seventh century. Subsequently the highway was extended up to Chinkiang, and the great Emperor Kublai Khan, in the thirteenth century, had the work carried from Peking to the Yellow River and the connections made with rivers and lakes, completing the great "Transit River," as the Chinese call it, as it is now known. This canal extends from Peking in a southeasterly direction, forming with the rivers which it connects a broad waterway from Peking to Hangchow, a distance of 650 miles. Part of it has been for some time disused, as the inflow from the Yellow River has become, by deposit from this turbid stream, completely choked up. Before this occurred there was by aid of several smaller canals and the numerous rivers that traverse the great plains of China, an uninterrupted water communication from Peking to Canton, over 1,100 miles. The Grand Canal traverses the flat country southward from Peking to the northern branch of the Pei-ho River. This branch forms the channel to Tientsin, and thence to Lintsing, 300 miles, it follows the southern branch of the Pei-ho. From Lintsing to Taining it is an artificial waterway; thence to the Yang-tse-Kiang it follows the lake system, and from this river to Hang-Chow is again an artificial excavation. The oldest portion of the canal, that between the two great rivers, is about ninety miles in length, and for the greater part of this distance it is carried upon a raised work of earth, in many places twenty feet and more above the surrounding country, the stream being confined between walls of stone. The sheet of water there is about two hundred feet wide, and has a current of nearly three miles an hour. Several large cities lie along the sides of the canal there, whose safety, as they are below the level of the waterway, depends wholly on the care taken of its banks. South of this its level descends until it is several feet below the country on its sides. Through its whole extent the Grand Canal was connected by smaller ways with every lake or stream that could possibly be led into it. S. Wells Williams, in his very complete work on China entitled, "The Middle Kingdom," says of this construction: "As a

work of art, compared with canals now existing in Western countries, the Transit River does not rank high; but even at this day there is no work of the kind in Asia to compare with it, and there was none in the world equal to it when first put into operation. It passes through alluvial soil in every part of its course, and the chief labor was expended in constructing embankments, and not in digging a deep channel. The junction of the Yun-ho about lat. 36 N. was probably taken as the summit level. From this point northward the trench was dug through Lintsing to join the Yu-ho, and embankments thrown up from the same place southward to the Yellow River, the whole being a line of 200 miles. In some places the bed is cut down thirty, forty, and even seventy feet, but it encountered no material obstacle. The sluices which keep the necessary level are of rude construction, and thick planks sliding in grooves hewn in stone buttresses form the only locks. Still the objects intended are all fully gained, and the simplicity of the means certainly does not derogate from the merit and execution of the plan."

#### FORTY-FIFTH ILLINOIS INFANTRY.

MOUNT CARROLL, ILL.

Give sketch of the Forty-fifth Illinois Infantry. What part of it was engaged June 25, 1863, at Vicksburg, and how many were killed on that day?

W. S. M.

*Answer.*—The Forty-fifth Regiment of Illinois volunteers was known as the "Lead Mine Regiment." It was organized at Galena and Chicago, six of its companies being recruited from the lead mines in the vicinity of the former city. It was mustered into the service Dec. 26, 1861, with Colonel John E. Smith as commander. It left Chicago for Cairo Jan. 12, 1862, and was immediately sent forward to join General Grant's command. It was present at the engagements of Forts Henry and Donelson, at the battle of Shiloh, and at the siege of Corinth; was in the Mississippi campaign which followed, and early in the following year took part in the campaign against Vicksburg. It was present at the engagements of Thompson's Hill, Bayou Pierre, Raymond, Jackson, and Champion Hill, and did good service in all. May 19 it went into the works at Vicksburg and took full part in the labors of the siege. At the blowing up of Fort Hill, June 25, the Forty-fifth Illinois was ordered to occupy the breach in the embankment. Fighting their way through, the men planted their flag in the fort. Colonel Maltby, then commanding, was wounded; Lieutenant Colonel Smith, of Rockford, mortally wounded, and Major Fisk instantly killed. Two captains were severely wounded and fifty-four non-commissioned officers and privates were killed or wounded in this charge. The Forty-fifth was at the head of the column when Logan's division marched into the captured city at 12 o'clock July 4, 1863, and its flag was the first to float over the Vicksburg Court House. The regiment remained on provost duty in this city until October, when it was sent to Black River, and while there, the most of the regiment re-enlisted Jan. 5, 1864. After this it went with Sherman on his celebrated Meridian raid, and on its return

went home on veteran furlough. It joined Sherman again June 9, and was with him at Atlanta and through all the stirring scenes of the historic "march to the sea." It went by water from Savannah to Beaufort, and had a severe encounter with the enemy at Pocotaligo, Jan. 14, 1865. It then rejoined Sherman's army, went on to Washington and took part in the grand review, went to Louisville for muster out, and was finally discharged at Chicago, July 15, 1865.

#### GEORGE SAND.

Give a brief sketch of the life of George Sand, and tell how she ranks among authors.

FREELAND, Col.

C. H. HICKSON.

*Answer.*—George Sand was the assumed name of a gifted French authoress—Mme. Dudevant. She was born at Paris in 1804, and was descended on her father's side from the famous Marshal de Saxe. Her maiden name was Dupin. Having received a strict education at a convent, in 1822 she married M. Dudevant, who had been an officer in Napoleon's army. In the course of a few years, however, as she found her husband's sentiments most uncongenial to her, she arranged a separation, and went to Paris, where she undertook to obtain a livelihood with her pen. At first she attempted newspaper writing, but in this she was not altogether successful; however, after the publication of her first novel, "Indiana," in 1832, her literary success was assured. She published six other novels during the following four years, and their receipts soon placed her in comfortable circumstances. She now procured a legal divorce from her husband, and assumed the charge of her two children. From this time on she occupied herself with her literary work, for she was a most facile writer, and in addition to her many novels wrote dramas and innumerable essays and other miscellaneous articles. She was an advocate of the most extreme republican and socialistic ideas, and in her private morals was far from being irreproachable. As a writer she ranks among the greatest novelists that ever lived, for though there is often much to be disapproved of in the sentiments that she advanced, the brilliancy of her imagination, the charm of her perfect literary style, and the wealth and vigor of her thought, can not but command admiration. Mme. Dudevant wrote about sixty novels, twenty plays, and many minor works. Her best-known romances (in English translation) are, probably, "Valentino," "Andre," "Consuelo," and "The Marquis de Villemer." Mme. Dudevant died July 8, 1876.

#### BORNEO AND NEW GUINEA.

CHICAGO, Ill.

Which is the largest island in the world, Borneo or New Guinea? Give the population, government, products, races of people, and geographical features of each of these islands.

T. MORRIS.

*Answer.*—It seems now quite certain that New Guinea is the larger of these two islands, which are, excepting Australia, the largest islands in the world. Late estimates give the area of New Guinea as about 325,000 square miles, while the extent of Borneo is computed at some 290,000 square miles, but neither island has ever been surveyed, or even thoroughly explored, so their difference in area is not yet accurately known.

Borneo lies between latitude seven degrees north and five degrees south, and is divided by the equator into two nearly equal portions; and between 106 degrees and 116 degrees longitude east from Greenwich. The population is estimated at about 1,846,000, consisting of the Dyaks, who are the aboriginal inhabitants, the Malays (from the Malay peninsula), Bugis (natives of Celebes), Javans (from Java), and Chinese. The Dyaks live chiefly in the interior, and employ themselves in a very primitive mode of farming, and also in collecting gutta-percha, resin, gums, and other products of the tropical forests; also gold dust, which is obtained from the auriferous sand of many of the rivers. The Malays and other colonists live generally on the coast and are traders and sailors. Many of them are more civilized than the Dyaks, cultivate gardens and engage in the manufacture of cotton fabrics, and of beautiful mats and baskets, this work being done chiefly by their women. The Chinese colonists have made their way far into the interior. They are engaged in trade and mining and are most indefatigable workers, but as the object of their toil is only to amass a certain amount of wealth so that they can return to their native country, it tends but little to the permanent advantage of the island. More than two-thirds of Borneo is included in the Dutch East Indian possessions. They have divided it into two residencies, the one including the western part of the island, the other the southern and eastern. Each of these is ruled by a governor and staff of officials, appointed by the Netherlands government. The rest of the island is in three divisions, severally controlled by the Sultan of Bruni, the Rajah of Sarawak, and the British North Borneo Company. The surface of Borneo is considerably varied. Two chains of mountains run through the island in a nearly parallel direction from southwest to northeast. Between these ranges are well-watered plains. The island has a number of fine rivers, but of the country surrounding their upper waters, scarcely anything is known. All of these rivers have sand banks or bars at their mouths, so that no large vessels can enter them. In the case of one river only, the Brunai, has this obstruction been cleared away to admit ships. There are a number of beautiful lakes known to be on the island. The climate of Borneo on the low ground is very hot, and is also damp, and malarial fevers prevail, but in higher parts the temperature is more moderate. During the rainy season violent storms prevail. Vegetation is very luxuriant all over the island, and tropical fruits of all kinds abound. The chief exports are sago, beeswax, edible birds' nests, camphor, hides, rattans, tortoise shell, dye-woods, resins, antimony, coal, diamonds, and gold. The mineral wealth is undoubtedly enormous, but scarcely more than its surface has yet been touched.

New Guinea lies about eighty miles north of Australia, and directly south of the equator, between longitude 130 degrees and 150 degrees east from Greenwich. From northwest to southeast the island is about 1,450 miles long, and



in breadth it varies from twenty to 400 miles. In April, 1883, the British government formally took possession of the island, but waived this claim the following year, in consideration of Germany's annexation of part of the same territory. The German possessions now cover 88,340 square miles, with an estimated population of 297,000; the British portion contains 98,457 square miles (in which some adjacent islands are included) and 137,500 inhabitants; while the Dutch claim the entire southern part of the island, 147,550 square miles, with a population of 250,000. These estimates of population are bare approximates, for less is really known of New Guinea than of any other country of equal extent in the world. The inhabitants belong to the original Papuan race, the most intelligent aboriginal race of Oceania. Quite a difference is noticed between the inhabitants of different parts of the island. Those on the south and west coast, having been in communication with outside nations for many years, have acquired many habits of civilization. They live in comparatively comfortable dwellings, and are decently clothed; they build boats and have some knowledge of iron, also cultivate gardens and farms with some skill. In the north the natives are altogether barbarous, wear little or no clothing, and live in huts built on poles. It is said that cannibalism is still practiced in some parts of the island. There are some missionary stations on the south coast. New Guinea is traversed about midway of its breadth by a lofty range of mountains, which extends through the entire length of the island. There are several deep bays on the coast and several large rivers flow from the mountains, but very little is accurately known of the geography of the island. Apparently it abounds in most luxuriant vegetation. The climate of the coast country is moist and generally unhealthy. All tropical fruits, birds, and animals are to be found. There has never been any trade carried on with the savages of the northern coast, but the Dutch have a number of trading stations on their territory. The chief exports of the island are sago, nutmegs, birdskins, trepang (a kind of dried fish), tortoise shell, pearl shell, also pularia and other medicinal barks.

#### THE CASTLE OF CHILLON.

LOGAN, Kan.

Tell something about the Castle of Chillon, by whom and when built, and for what purpose it is now used.

A. PHARO.

*Answer.*—Chillon Castle is a celebrated castle and fortress of Switzerland, in the canton of Vaud, six miles southeast of Vevey. It is situated at the east end of the Lake of Geneva, on an isolated rock almost entirely surrounded by deep water, and is connected with the shore by a wooden bridge. The castle is usually believed to have been built in 1238, by Amadeus IV. of Savoy, though some writers ascribe to it an earlier origin, and identify it with the castle described as on the borders of a lake, in which Louis le Debonnaire imprisoned the Abbe Wala, who had instigated the sons of the king to rebellion. Whether first erected at that time or not, there

seems no doubt that at some time during the thirteenth century the building was fortified as it now stands, and for some time the Counts of Savoy resided in it. From the sixteenth century, and perhaps before, it was used as a state prison. Since 1738 it has been employed as a magazine for military stores. The castle is built of white stone, but though large, is not of very imposing appearance, as its foundations only rise a few feet above the water. The lake here is 800 feet deep. Over one of the entrances to the castle the Bernese inscribed in 1643 the words, in the German language, "The Lord God save those who come in and go out." Visitors are shown through the castle for a fee of one franc, and are allowed, if they desire, to enter the gloomy dungeons in which those who were guilty of religious or political heresy, were once confined. There are still to be seen in the cells the stone pillars, with strong iron rings attached to which the unhappy prisoners were fettered. Bonnivard's dungeon is still shown, and traces of footsteps on its stone pavement are said to have been worn by his feet during his long imprisonment. He was only one of the many victims of tyranny who suffered in those dreary cells, but poetry has rendered the story of his imprisonment immortal—though not accurately told—while even the names of other victims are forgotten. The reader will find a sketch of Bonnivard in Our Curiosity Shop book for 1885.

#### THE CUPELLATIVE METHOD OF ASSAYING.

LE ROY, Ohio.

Give the method of assaying by cupellation; also describe the furnace and other materials used.

C. D. ADAMS.

*Answer.*—The art of assaying gold or silver by the "dry method" is called cupellation. It differs from chemical analysis in merely furnishing the quantity of the precious metal contained in the sample examined, and giving no indication of the quantity or nature of other ingredients in the compound. The materials required are the furnace, muffle, cupels, and necessary articles for managing the furnace. A furnace of any size or shape may be used, provided it affords sufficient heat, and admits of the easy insertion of the assaying apparatus. Charcoal furnaces were formerly used wholly, but of late years, gas furnaces, which give a very intense heat without labor and expense than the charcoal, have come into general use. These are made in various sizes and with various modifications of shape. The power of a furnace, other things being equal, depends upon the length of its chimney, for if a furnace with a three-foot chimney will melt a given quantity of metal in, say, thirty-five minutes, one with a six-foot chimney will melt the same quantity in twenty minutes. The furnace stove, with a side chimney, though more convenient in use, is very much slower in working, taking about twice as long to obtain the same temperature. The muffle is a vessel made of clay, and furnished with holes, or slits, on the side, through which to insert the cupels, and holes on the top, to watch the process of melting. It is placed upon a shelf, or plate, and thus slid into the door of the furnace. The cupel, the instru-

ment which gives the name to the process, is a small, porous, and shallow crucible, usually made of bone ashes or burnt horn. This powder, slightly moistened, is placed in a circular steel mould, and finished off with a rammer until the mass becomes quite hard and adherent. The newly formed cupel is then exposed to the air about two weeks to dry. In the assaying process the muffle, with the cupels properly arranged in it, is placed in the heated furnace. After being exposed to this heat for about half an hour, until it is white hot, a piece of lead is put into each one of the cupels by means of a pair of tongs. As soon as the lead has become liquid and quite red in color, the specimen of metal for assay is added in the same manner. The fire is now kept up strongly for some time. Those experienced in the work of assaying know just what degree of heat is required, and a glance at the fusing metal assures them how near it has come to the final separation. When the metal becomes bright and shining and brilliant hues flash across the globules the process is known to be complete. The cupels are then drawn from the muffle and allowed to cool slowly. When cold, the precious metal is seen to be in the form of a small button on the top of the other material in the cupel. This mode of assaying is effective because of the feeble affinity which gold and silver have for oxygen, in comparison with copper, tin and the other base metals, these other metals having a tendency to oxidise rapidly in contact with lead at a high temperature, and with it to form a glassy compound, which is rapidly absorbed by the porous earthen vessels. Considerable skill is required in conducting this process, and at the best, it is far less perfect in results than the "humid method" of assaying, or chemical analysis.

#### THE PRINCIPLE OF THE TELEPHONE.

CENTREVILLE, Iowa.  
How is voice communicated or impelled by telephone?

*Answer.*—The telephone is an invention for reproducing the human voice by the agency of electricity at long distances from the speaker. Its principle and construction may be described as follows: If a wire from a galvanic battery be wound around a bar of soft iron, the bar will be made magnetic, and remain thus while the current continues to pass around it; when this ceases its magnetism disappears. If the bar is of steel, however, its magnetism is permanent; that is, though the current is removed, it still remains magnetic. Now, since electricity can make a magnet, it is possible, in turn, to make a magnet the source of electricity. Suppose a piece of iron be brought close to the end of a steel magnet, it will be forcibly held there by the magnet's power of attraction. A wire may be wound around the bar and its ends joined, then if the piece of iron be pulled off from the magnet bar, and stuck on again, a current of electricity will run through the wire every time this is done. Electricity induced in this way is called magneto-electric, and the current in the wire is said to be induced electric current. If, now, this wire

and coiled around another magnetized bar, the currents induced in it, by making and breaking the contact of the piece of soft iron with the first magnet, will at the same time affect the magnetism in the distant magnet. A still more remarkable fact is that these induced currents may be sent through the wire without the actual contact of the soft iron with the steel magnet. If the iron is brought very near to the magnet and then withdrawn, an electric thrill runs through the wire and is felt in the distant magnet, just as if the contact had been actually made and broken. And so, if the soft iron be moved before the magnet, no matter how rapidly or gently, an electric pulse is felt with each motion of the magnet at the other end of the connecting wire. This illustration gives the fundamental principle of the telephone. No galvanic battery is required, as in the telegraph, to furnish an electrical current, the motions of the soft iron acting upon the magnet produce a current sufficiently powerful, even when these motions are the most delicate possible. The piece of iron in the telephone is called the diaphragm. It is a thin, circular sheet of iron, a couple of inches in diameter, held by its rim, and adjusted so that its center comes very close to the end of the magnetized bar. Its motions, which are to induce the impelling of the electrical current through the wire, are the vibrations of air, caused by the human voice in speaking. Every one knows that sounds are propagated through the aerial medium by wave motions of this medium, and that we hear them by the impact of these waves on the drum of the ear. It is also well known that these waves differ in length and rapidity of movement, and that these differences give the peculiarities of tone in musical instruments and the human voice. Now, these waves, started by a person talking, beat against the diaphragm of the telephone and throw it into vibrations. This iron diaphragm, acting inductively on the magnet, originates magneto-electric currents in the wire helix about it, and these travel along the connecting wire to another helix encircling the magnet at the other end, and, acting upon that, exert electro-magnetic effects which increase and decrease the strength of the magnet, thus setting its diaphragm into vibration. These vibrations correspond exactly with those of the first diaphragm, and the second diaphragm is thus made to restore to the air in one place what the first one received from the air in another place. These air-waves falling on the tympanum of the listener, reproduce the original sound or voice. The arrangement being the same at both ends, the machine, of course, works both ways; so that when a person is talking to the distant diaphragm the direction is reversed, and the sounds are emitted by the diaphragm near by, and thus the original talker gets his responses.

#### THE FIRST DARK HORSE.

ELMIRA, D. T.  
Give the facts of the nomination of James K. Polk. Why did he pledge himself not to be a candidate for re-election?  
W. F.

*Answer.*—James K. Polk was the first "dark horse" chosen by a National convention. He had not sought the nomination for the Presidency, and his warmest admirers had little hope that he



would make an available candidate. The Democratic convention met at Baltimore, May 27, 1844. The two prominent candidates before the convention were Lewis Cass, of Michigan, and Martin Van Buren, of New York. The supporters of these two candidates were so bitterly opposed that it was out of the question that either could consent to support the other on any conditions. Besides, there was a minority made up of Southern delegates who would not support Cass, and who had been made bitter opponents of Van Buren, by his recently declared opposition to the annexation of Texas. These, working with the Cass supporters, as soon as the convention was organized, brought up a resolution adopting the two-thirds rule for the government of the convention. This was warmly debated, as it plainly meant the defeat of Mr. Van Buren, but was finally passed on the second day of the convention. The balloting then began, and the vote of the convention had been taken seven times before Mr. Polk's name was brought forward. On the eighth ballot he received forty-four votes. The ninth ballot was taken amid a scene which has been repeated many times since that day in National conventions, and is now known as "a stampede." Delegation after delegation changed its vote, and when the result was announced it was found that James K. Polk, of Tennessee, had received nearly the entire vote of the convention. Amid wild confusion and huzzas, the choice was made unanimous. It is noteworthy that the announcement of this nomination was the first general message sent over the first telegraph in this country, the line from Baltimore to Boston, which had but just been completed. Mr. Polk accepted the unlooked-for honor that had been bestowed upon him with the express stipulation that he should not be a candidate of the party for re-election. In his letter of acceptance he said that he had not sought the office, nor should he feel at liberty to decline it if conferred upon him; but that, if elected, he should "enter upon the high and solemn duties of the office with the settled purpose not to be a candidate for re-election." By this determination, he said, he put upon himself a salutary restraint and gave to his party the opportunity to make free selection of his successor. It may be said that the general success of Mr. Polk's administration far surpassed the popular appreciation of his ability, and had he not been pledged to decline re-election, he would probably have been one of the strongest candidates of his party in 1848.

#### TENTH ILLINOIS CAVALRY.

Would like to know something of the history of the Tenth Illinois Cavalry.

FOUNTAIN, Colo.

W. H. JONES.

*Answer.*—The Tenth Illinois Cavalry was organized at Springfield in the fall of 1861, and remained in camp until April, 1862, when it was sent into Missouri. During 1862 it was on scout and garrison duty in Missouri and Arkansas, and in December it took a prominent part in the fights at Prairie Grove and Van Buren. It was in the engagements at Richmond, La., June 15, at Bayou Metee Aug. 27, and at Little Rock Sept.

10. Although this regiment took no part in the great battles of the war, few regiments marched further, or did their duty more effectively. It was not only engaged in numberless skirmishes and reconnaissances, but built many fortifications, bridged numerous rivers, and corduroyed miles of swamp. The regiment re-enlisted as veterans in 1864, and continued to serve in the army of the Arkansas until its muster out in July, 1865.

#### JAMES II. OF ENGLAND.

LOGANSPORT, Ind.

Give a brief biography of the Duke of York, who became James II. of England.

M. J. GRAHAM.

*Answer.*—James II. of England was the second son of Charles I. and Queen Henrietta Maria. He was created Duke of York in infancy. He accompanied his father during the civil war, and was taken prisoner, but escaped, disguised as a girl, in April, 1648, and went over to Holland. He served with distinction in both the French and Spanish armies, and after the restoration returned to England and was made Lord High Admiral of the English navy. In the ensuing war with the Dutch he commanded the English fleet ably. In 1660 the Duke had married Anne, daughter of Edward Hyde, the Earl of Clarendon. In 1671 this lady died, leaving two daughters, both of whom subsequently sat upon the throne of England. Before her death she disavowed Protestantism, through the influence of her husband, who several years before had become a Catholic. In 1673, the Duke was compelled by the conditions of the "test act" to resign the office of admiral. This same year he married Mary of Modena, a Catholic princess. So strong was the feeling in Parliament and through the kingdom against him for his change of religion, that he was obliged to go to the continent to reside for a time, and a bill excluding him from succession to the English crown passed the House of Commons, but failed to pass the House of Lords. He returned while this bill was pending and was made Lord High Commissioner of Scotland, but was so unpopular there that he did not remain long. However, in 1685, after his brother's death, he succeeded to the throne without opposition. His reign was brief, however, being filled with contentions with Parliament and the established church. He seemed utterly wanting in the tact of his brother, but, like his unfortunate father, rashly contended for the right of personal government which he believed the "divine right" of a king. In the first year of his reign occurred Monmouth's rebellion. This was not generally upheld by the people, and was soon overthrown, all those implicated in it being punished with great severity. The subsequent acts of the King, his claim to the power of dispensing with laws at his will, and dismissing the Parliament whenever it would not carry out his wishes, convinced the people that his permanent rule could not be tolerated, and in 1688 William of Orange, James' son-in-law, was called over "to protect the liberties and religion of the English people." William came, and James was forced to abdicate the throne. A fully detailed account of the

"revolution of 1688" will be found in Our Curiosity Shop book for 1885. James made an effort to regain his crown by undertaking an expedition to Ireland in 1689. The troops and money for this expedition were furnished by King Louis XIV. of France. The ex-King was received kindly in Ireland, but at the battle of the Boyne his army was totally routed. The remaining eleven years of his life were spent at St. Germain, in France, in vain intrigues for recovering possession of his lost kingdom.

#### NAPOLEON AS EMPEROR AND PRISONER.

DELAVAL, Minn.  
Give an account of Napoleon Bonaparte's life from the time that he became Emperor of France to when he was banished.  
G. CLOUP.

**Answer.**—May 18, 1804, the tribunate and senate of France proclaimed the Consul Bonaparte, Napoleon I., Emperor of the French. Dec. 2 of the same year he was crowned at Paris by Pope Pius VII. He established a brilliant court, with all the etiquette of royalty, and soon showed that his purpose was to rule as an absolute monarch. May 26, 1805, he was also crowned king of Italy at Milan. Other nations of Europe becoming alarmed at his growing power, a coalition was formed against him by Great Britain, Russia, Austria and Sweden. Spain was allied to France and also many of the small German states. The French armies crossed the Rhine in September, commanded by Napoleon in person, and massed on the Upper Danube. After defeating the Austrians in several battles, nearly the entire army surrendered to the French at Ulm Oct. 17. However, four days later the entire French fleet was destroyed by the British under Nelson at Trafalgar. Dec. 2, at the battle of Austerlitz, Napoleon defeated the united forces of Austria and Russia. Austria made peace immediately, but though Russia called her army home she remained hostile. Napoleon now declared war against Naples, and sent an army into that country. As the King fled in terror to Sicily, Napoleon declared the throne vacant, and made his own brother Joseph king. In July, 1806, Napoleon established the Confederacy of the Rhine, with himself as protector. All of the German states except Prussia and Brunswick joined this confederacy. Not long after this, Prussia allied herself with Russia and England, and declared war against Napoleon. The Emperor, whose celerity of action was remarkable, immediately moved upon the former country with an enormous army, and, Oct. 14, routed the Prussian army with terrible slaughter at Jena. On the same day one of his marshals gained a victory over another Prussian force, and Napoleon followed up these successes with such energy that in two weeks from the opening of hostilities he entered the Prussian capital in triumph. Garri-soning all the fortresses with French troops, Napoleon then issued his famous Berlin decrees, declaring the British Islands to be in a state of blockade, and all British vessels and goods lawful prizes of war. The French army advanced against the Russian allies and drove them back through Poland. A battle was fought at Pultusk Dec. 26, but without decisive results, and both

armies retreated to make preparations for further operations. Feb. 7, 8, a desperate battle was fought at Eylau, at which 50,000 men were killed, and both sides claimed the victory. In May Napoleon captured the fortress of Dantzic, and in June so worsted the Russians at the battle of Friedland that the Czar asked for an armistice. In July peace was concluded by the treaty of Tilsit. During this year Napoleon founded the kingdom of Westphalia, giving the crown to his brother Jerome, formed an alliance with Denmark and Russia to resist England, and because Portugal refused to enforce the Berlin decrees took possession of the country with an army. Finding also a pretext in the confusion of administrative affairs in Spain for interference there the Emperor occupied Madrid with an armed force, compelled the royal family to abdicate their power, and made his brother Joseph king, giving the kingdom of Naples to one of his marshals. There was an immediate uprising of the Spaniards, however, and King Joseph had to flee from the country almost immediately after his entrance there. The Peninsular war now began, between France and Great Britain and Spain. Napoleon, first securing himself against Austria by a closer alliance with Alexander of Russia at the Erfurt conference—where four kings, thirty-four princes, and other German rulers appeared to do him homage—hastened in person to Spain with 250,000 men. The British troops were victorious at Corunna, though they lost their general, but soon after the French took Saragossa. Napoleon, however, was obliged to hasten back to France to check the hostile schemes of Austria, as that country, taking advantage of his absence, had sent troops into the Tyrol. Against these he assumed command, April 17, of his army in person. April 22 the Austrian army was defeated at Eckmühl; May 13 the French entered Vienna; July 6 a victory so complete was gained by Napoleon that he was able to dictate his own terms of peace. In the meantime the Peninsular war went on and troubles began with the Pope, which the Emperor settled by having His Holiness arrested and conveyed to Paris, where he remained a virtual prisoner till Napoleon's downfall. In the latter part of this year (1809) Napoleon divorced his wife Josephine, and April 2, 1810, was wedded to Maria Louisa, daughter of the Austrian Emperor. From this union a son was born in March, 1811, who in his cradle was proclaimed King of Rome. The French Empire had now reached the summit of its glory under the great conqueror. It not only embraced forty departments or provinces taken from Germany, Austria and Italy, but it exercised important control in Spain, Holland, throughout Italy, Switzerland, and the confederation of the Rhine. Napoleon, after having made his brother Louis King of Holland, annexed that country to France. He had also given a King to Sweden in the person of one of his marshals, Bernadotte. But the British in the peninsula were preparing to hasten the downfall of this mighty power. Both sides met with successes until 1812. The capture of Valencia in January of that year was the last success of the



French army. April 16 Wellington took Badajoz from them; July 22 he worsted Marmont at Salamanca; twenty days later he had taken Madrid. By the battle of Vittoria, June 21, 1813, the French were driven beyond the Pyrenees. Napoleon, during this time, was occupied in a more stupendous enterprise than the conquering of Spain. His good understanding with the Czar of Russia had come to an end. In June, 1812, a grand army of 500,000 men had assembled on the frontiers of Poland. To oppose them was an army of 300,000 Russians. June 24, 1812, Napoleon, at the head of his army, crossed the river Niemen. The Russian army retreated. The first stand made was at Smolensk, but only by a small part of the forces. The town was burned and the armies moved on, though the French army soon began to suffer from lack of food. At Borodino a terrible battle was fought in which nearly 80,000 men were killed. The Russian army retreated to Moscow. When the French army entered that city they found it quite deserted. That night, however, it was set on fire, and the French had to take refuge from the flames in the surrounding country. Napoleon now endeavored to make terms of peace, but his proposals being all rejected he was compelled to order a retreat. He himself made his way rapidly to France, but the retreat of the army was accomplished but slowly, with attendant suffering and horror that has no parallel in history. The cold was intense, the men had no food, and Cossack troops dogged them to the border, murdering the stragglers. In this campaign 125,000 of the French and their allies were killed, 130,000 died of hunger, cold, and disease, and 193,000 were made prisoners, yet the Emperor had scarcely reached Paris when he gave orders for a new conscription. A sixth coalition was now formed against him, composed of Russia, Great Britain, Sweden, Prussia, and Spain. Early in 1813 this sent forward an army to the Elbe determined to hem in this General who defied all misfortune. With an army of 350,000 men, Napoleon advanced to meet his foe. He won the battle of Lutzen May 2, and that of Bautzen May 21, but neither with decisive results. An armistice now followed and proposals on the part of the allies for peace, but Napoleon would not agree to the terms suggested. Aug. 24-27 occurred the battle of Dresden, in which the French were only partially successful. Continued desertions from Napoleon's army now crippled its effectiveness. In fact, the great leader had now lost the popular sympathy which had sustained him through so many reverses in the past. Oct. 16-18 the battle of Leipzig was fought, but while the French made gallant resistance they were forced to retreat. Though Napoleon's military genius enabled him to be almost irresistible in attack and impregnable in defense, for a retreat he seemed to have no capacity. With him a backward march was far worse than a lost battle. When he crossed the Rhine he had but 80,000 left of his splendid army. Yet in spite of these terrible reverses the Emperor was prepared by the end of January, 1814, to enter upon another campaign. He was now surrounded by enemies. Wellington had

crossed the Pyrenees; armies of Prussia, Russia, and Austria lay along the eastern border; Bernadotte, his own former marshal, was on his way from the north with 100,000 soldiers; Murat, King of Naples, the Emperor's brother-in-law, who had received his kingdom from the Emperor's own hand, was in the league against him. But in spite of enemies and broken forces this indomitable general still astonished the world with his courage and his strategy. Again and again he contrived to separate the hostile forces and inflict considerable defeats upon them, but want of troops rendered him unable to follow up success. Had he not been so determined to conquer, he might have made terms with his enemies that would have permitted him to keep his crown. But he would not make any concessions, and the invading army marched upon the capital. Napoleon, who had not half the number of the enemy at his command, endeavored to check their advance by making his way toward their rear. Still the invaders moved forward. March 30 they stormed the heights of Montmartre, and on March 31 entered Paris. Napoleon was forced to abdicate the throne of France unconditionally, and was allowed to rule as sovereign in the Island of Elba to retain the title of Emperor, and receive an income of 2,000,000 francs. May 4, 1814, the Emperor landed at Elba. Less than a year later he landed at Cannes, France (March 1, 1815), determined to win back his former power. Immediately Great Britain and Prussia united to overthrow him as "the public enemy of Europe." An account of his disastrous defeat at the battle of Waterloo can be found in *Our Curiosity Shop* book for 1885. After Waterloo, Napoleon again abdicated, this time in favor of his son, appointed a commission to govern France, and endeavored to escape to America. But the ports were blockaded by the British fleet, and he surrendered himself to the generosity of the British Government. An account of his banishment and life at St. Helena will be found elsewhere in this volume.

#### EIGHTH ILLINOIS INFANTRY.

EAGLE POINT, Oregon.

Give a sketch of the Eighth Illinois Infantry and its campaigns, telling the number of men killed in the war.

MRS. A. J. FLOREY.

*Answer*—The Eighth Regiment was mustered into the service at Camp Yates, April 25, 1861, with Richard J. Oglesby as colonel. After three months spent in camp at Cairo the regiment reorganized and was mustered for three years' service. It saw no active fighting until January, 1862, when it joined in the movement on Columbus, and then took part in the actions at Fort Henry and Fort Donelson, and was subsequently at the battle of Shiloh and the siege of Corinth. It was stationed at Jackson until November, when it took part in Grant's movement into Mississippi, and in the following spring moved with the grand advance upon Vicksburg. It took part in the battles of Thompson's Hill, Raymond, Jackson, and Champion Hills, and in the siege of Vicksburg. It went with Sherman on his Meridian expedition. In March, 1864, three-fourths of the regiment re-enlisted. After returning

from veteran furlough it was on post duty for some months, taking part in occasional expeditions. July 25 the regiment left Vicksburg for Morgansia, La., where it remained until Aug. 23, when it joined the White River expedition. In October it returned to Memphis, Tenn., remaining in that vicinity until Jan. 1, 1865, when it was sent to New Orleans. Thence it was sent to Dauphin Island, and some weeks later to Spanish Fort. It was on guard duty at Mobile after the surrender till May 27, when it went to New Orleans, thence to Shreveport, and remained at the latter place and at Marshall until its muster out in May, 1866. The death loss of this regiment in battle and in hospital was 256.

#### CHRISTOPH MARTIN WIELAND.

LINGLEVILLE, Texas.  
Please give a brief biography of the German poet Wieland. W. E. BOWEN.

*Answer.*—Christoph Martin Wieland was born in Wurtemberg, Sept 5, 1753. He was the son of a Protestant clergyman. At the age of 12 he began to write verses in German and in Latin. He was given a fine classical education, studying at the University of Tubingen. He lived in Switzerland from 1752 to 1760, and in that time wrote a number of long poems, mostly didactic in their character. Subsequently his writings became less grave in their tendency, in fact, though elegant in form, some of his poems are much tainted with sensuality. While filling a position in the civil service at Biberach, he made a translation of Shakespeare, which was the first introduction of the great English poet to the German public. He was professor of philosophy at Erfurt University from 1769 to 1772. In the latter year he was made tutor to the young duke of Saxe-Weimar, and held the position for some years. He also, with others, founded the *Deutscher Mercur*, a literary monthly, and acted as chief editor of it for fifteen years. He died near Weimar in January, 1813. Among his many works the principal ones were "Araspe and Panthea" (1758), and "Musalon" (1768), and "Oberon" (1780), poems; "Alceste," an opera (1773); "Agathon" (1766), "The Manuscript of Diogenes" (1770), "The People of Abdera" (1773), and other prose works, besides a large number of translations from other languages. On account of his wit and levity Wieland was styled "the German Voltaire." He enjoyed in his later years a competent fortune, largely earned by his writings, and the friendship of Goethe, Schiller, and Herder.

#### WATER SPOUTS.

OXFORD, Ind.  
Give a brief description of water spouts. READER.

*Answer.*—A water spout is a small whirlwind occurring on the surface of a sea or lake. In the center of this whirlwind a slender column of water or dense vapor appears, which is the water spout proper. This column when fully formed reaches from the sky to the surface of the water, whirling rapidly on its axis, and borne forward by the wind that may happen to be then blowing. The water at the base of the whirling vortex is thrown into violent commotion, and literally "boils like a pot." There is a common belief that the water of the sea is sucked up in a solid mass by water spouts, but in fact the spray from the

broken waves alone is thus drawn up. What are called "water spouts on land" are only heavy falls of rain accompanied by whirling winds.

#### THE WASHINGTONIANS.

Box HONNE, D. T.  
Tell something about the origin and history of the Washingtonian Society. A SUBSCRIBER.  
KETTESVILLE, Mo.

When and where was the first Washingtonian pledge adopted? S. F. CADY.

*Answer.*—The Washingtonian Society is said to have originated with six men who had met to drink in a tavern in Baltimore. They were not so, but hardworking men, who had a weakness for an occasional "jolly bout." It had been their habit to meet at this tavern, to tattle together, telling stories and singing songs, and quaffing the liquor between whiles, until the closing hour sent them reeling on their homeward way. But one evening—the date is given as April 2, 1840—they all seemed unusually grave, and no one appeared to desire to begin the evening's entertainment by calling for liquors. At last one of them ventured to say that he was troubled in mind, because of the hold which the habit of drinking had taken upon him. The other five confessed to like apprehensions, and together left the tavern, and at the home of one of their number banded themselves into a society, whose principle was a pledge of total abstinence from all intoxicating drinks. They called themselves the Washington Temperance Society, and began to work among their companions, urging all to take the pledge with them. The idea spread and grew, was taken up in other cities, and in five years the Washingtonians were said to number 600,000 members. The effort of this society was primarily to reform those who had already fallen under the habit of drinking. From this society sprang the various temperance organizations of the country, the Sons of Temperance, Good Templars, etc.

#### GIRARD COLLEGE.

CRESTLINE, Kan.  
Give a brief history of Girard College in Philadelphia. L.

*Answer.*—Stephen Girard, a wealthy merchant of Philadelphia, who died in 1831, bequeathed a large plat of ground and over \$2,000,000 for the erection and support of a college for orphans. His will gave minute directions for the construction, size, and material of the building, which was begun in July, 1833, and opened for pupils Jan. 1, 1848. This main building is of white marble, is in the form of a Corinthian temple, and is the finest specimen of Grecian architecture in the modern world. It is surrounded with a portico of thirty columns each fifty-five feet high and six feet in diameter. The buildings in which are the sleeping and living rooms for the pupils are four in number, two on each side of the main structure; all these are also built of marble. The cost of these edifices was over \$1,930,000. The surrounding grounds, laid out as playgrounds, gardens, etc., comprise 41 acres, enclosed with a high stone wall. Mr. Girard's will provided that this school should take as many poor white orphaned boys born in Pennsylvania as its endowment could support between the ages of 6 and 10 years, and feed, clothe, and educate them until they were 18 years old. ANKAS 400-100 AN



apprenticed to some trade or occupation. The course of study embraces English and scientific branches, also French and Spanish. By a provision of Mr. Girard's will no minister of any sect is to hold any connection with the college whatever, or even be admitted to the premises as a visitor, but the teachers are required to instruct the pupils in the principles of the purest morality. Over 2,500 pupils have been admitted to this college since its opening. The endowment of the school has become so valuable that it can support more pupils than the building can hold—a limit of 550—so that the school is always full.

#### BURNING OF BUFFALO, IN 1812.

Give an account of the burning of Buffalo by the British in the war of 1812.

**Answer.**—After the battle of Black Rock, Dec. 29, 1813, the American commander, Chapin, retreated to Buffalo, endeavoring to keep in check the advance of the victorious British army. The inhabitants of Buffalo, then a small village, fled in terror. The American officer, Captain Chapin, met the approaching army of British and Indians and offered to surrender the place on condition that private property in the village should be respected. This the British general, Riall, agreed to, but when he learned that Chapin had no authority to make terms, he withdrew his pledge, and gave his army full play for its destructive instincts. The houses were plundered and then burned, only four buildings out of the thirty or forty, more or less, in the village being left standing. These were the jail, an unfinished barn, the blacksmith shop, and the house of a Mrs. St. John. When the other inhabitants fled, two women, Mrs. St. John and Mrs. Lovejoy, remained, declaring that they would defend their own property to the last. The former of these met the Indians that entered her house bent on plunder, kindly offered them the best she had to eat and drink, and in consequence neither she nor her children or property were injured. Mrs. Lovejoy, on the other hand, resisted the entrance of the red men with force, and was killed and scalped and her house burned.

#### SIXTY-FIRST ILLINOIS INFANTRY.

Give a brief sketch of the Sixty-first Illinois Infantry from time of muster till discharge.

**Answer.**—The Sixty-first Regiment was organized at Carrollton, Ill., in the fall of 1861. In February following it was ordered to St. Louis, where it was mustered into the service March 7, 1862. Some two weeks later it was ordered to report to General Grant, and reached his army just in time to take part in the battle of Shiloh. After the siege of Corinth it was employed at various points in guarding railroads until the winter. In May, 1863, it was sent up the Yazoo River, and had an engagement with the enemy at Mechanicsburg. It then went to Haines' Bluff, and thence to Snyder's Bluff, where it remained till after the surrender of Vicksburg. It was with General Steele's expedition, which captured Little Rock Sept. 10, 1863, and remained in that vicinity scouting until July, 1864, when it went

with General Carr's division up White River. In August, 1864, the veterans took their furlough, and on their return were assigned to Rousseau's command. It remained in the vicinity of Murfreesboro the most of the time after this, guarding railroads, and had several sharp skirmishes with the enemy, until the muster out in September, 1865.

#### TO THE VICTORS BELONG THE SPOILS.

Who originated the saying "To the victors belong the spoils," and why is it called the Jacksonian doctrine?

**Answer.**—This famous phrase originated with William L. Marcy, of New York, who in a speech before the Senate in January, 1832, in defense of President Jackson, said of his constituents, that they "see nothing wrong in the rule that to the victors belong the spoils of the enemy." The doctrine is called Jacksonian, because President Jackson had put the principle so strongly in force even before it had been thus epigrammatically enunciated by Mr. Marcy, and because he was the first President who did so. Between April 30, 1789, when Washington was inaugurated as President, and the inauguration of Jackson, March 4, 1829, only seventy-three removals from office had been made by all the Presidents, including all removals for cause. During the first year of President Jackson's administration he made over 700 removals, almost wholly for political reasons.

#### PROFESSOR DAVID SWING.

Was Professor Swing ever dismissed from the pastorate of an orthodox church, and for what reason? Give a history of the affair.

**Answer.**—Professor Swing was, previous to 1875, pastor of the Fourth Presbyterian Church of Chicago, and was very popular. His sermons were, however, not satisfactory to some of his ministerial brethren, who believed Professor Swing's views to be out of accord with Presbyterianism. Professor Francis L. Patton, a professor in the Presbyterian Theological Seminary of the Northwest, brought charges against him in the Chicago Presbytery for teaching doctrines that were heretical and subversive of Christianity. On these charges the presbytery declined to convict him. Professor Patton appealed from the decision of the presbytery to the synod and that body took an opposite view of the case. Professor Swing then withdrew voluntarily from the Presbyterian communion. His friends thereupon united in organizing an independent church and called him as its pastor. His connection with the Fourth Presbyterian Church terminated Dec. 1, 1875, and he began preaching for the new organization in April, 1876.

#### FIFTY-FOURTH ILLINOIS INFANTRY.

Would like a sketch of the Fifty-fourth Illinois Infantry, with list of regimental officers when discharged.

**Answer.**—The Fifty-fourth regiment was mustered into the service at Camp Dubois, Anna, Ill. Feb. 18, 1862. Its regimental officers were T. W. Harris, Colonel, Greenville M. Mitchell, Lieutenant Colonel, Augustus A. Chapman, Major, John W. True, Adjutant, George Monroe, Quar-

termaster. The regiment left Camp Dubois Feb. 24, went to Cairo and then to Columbus. It remained there on fatigue duty until autumn. When sent to Jackson in December Company B was left behind to guard the sick and was surprised by Forrest and captured. The regiment remained at Jackson till the following spring, then joined General Sherman's army at Haines' Bluff. In August it took part in the Little Rock expedition. Early in 1864 the regiment re-enlisted. On the way back to the army from veteran furlough the soldiers got into a fracas with the townspeople at Charlestown, Ill., in which the surgeon of the regiment and four privates were killed, and Colonel Mitchell was wounded. April 30 the regiment arrived at Little Rock. It was then employed in looking after the movements of General Shelby, and had several skirmishes. Aug. 24 it was overpowered by the enemy, and six companies were captured. These were exchanged and returned to duty in December. From this time the regiment was stationed at various points until Oct. 15, 1865, when it was mustered out and sent home, and the men were finally discharged Oct. 26, at Camp Butler.

#### SEVENTH ILLINOIS CAVALRY.

MADISON, Neb.  
Give an account of the Seventh Illinois Cavalry, the number of men enlisted in it during the war, and the officers of Company C.  
HENRY C. CHURCH.

*Answer.*—The Seventh Cavalry was organized at Camp Butler, and mustered into service Oct. 13, 1861, with 1,141 officers and men upon its rolls. The officers of Company C were: Captain, Prescott Bartlett; First Lieutenant, John H. Shaw; Second Lieutenant, Benjamin F. Berkley. Part of the regiment went to Bird's Point, Mo., in October, and in December the other companies were also sent thither. Four of the companies were soon after sent to Cape Girardeau, and did not rejoin the others until the attack upon New Madrid was made in the spring of 1862. Thence the regiment went up the Tennessee River to Farmington, where, in a skirmish, its Major, the Hon. Zenas Aplington, of Ozle County, was killed. Through the summer the regiment was employed in guarding the Memphis and Charleston Railroad. It was at the battles of Iuka and Corinth, losing in the two engagements forty officers and men killed and wounded. Dec. 1 the regiment was assigned to Colonel Dickey's command of cavalry, and made several raids into Mississippi in pursuit of Price. In January it was put under command of Colonel Grierson, and took part in the famous "Grierson's raid," one of the most daring and gallant exploits of the war. The raiders entered Baton Rouge May 2, and soon after were sent to protect the rear of the troops investing Vicksburg. After the fall of that city the regiment was sent to Memphis, and was stationed there and engaged in scouting till the close of the year. In March, 1864, 289 officers and men re-enlisted. After their return from veteran furlough the regiment was assigned to Hatch's division and was kept employed in pursuing the raider General Forrest in various directions. In September it was ordered to Pulaski to meet Hood and took an important part in the battle of Franklin.

When Hood's army was forced to retreat, the Seventh pursued it to the Tennessee, having several lively skirmishes. In January, 1865, the regiment was recruited until it numbered over 1,600 men. It was then stationed at Okalona, Miss., and in July went to Decatur, Ala. In October, it marched to Nashville for muster out, and was discharged at Camp Butler, Ill., Nov. 17, 1865.

#### THE STANDARD TIME.

HENDERSON, Ill.  
Give an explanation of the new standard time used by railroads.  
W. T. NELSON.

*Answer.*—What is known as the "new standard time" was adopted by agreement by all the principal railroads of the United States at 12 o'clock noon on Nov. 18, 1883. The system divides the continent into five longitudinal belts, and fixes a meridian of time for each belt. These meridians are fifteen degrees of longitude, corresponding to one hour of time, apart. Eastern Maine, New Brunswick, and Nova Scotia use the 60th meridian; the Canadas, New England, the Middle States, Virginia, and the Carolinas use the 75th meridian, which is that of Philadelphia; the States of the Mississippi Valley, Alabama, Georgia, and Florida, and westward including Texas, Kansas, and the larger part of Nebraska and Dakota use the 90th meridian, which is that of New Orleans. The Territories to the western border of Arizona and Montana go by the time of the 105th meridian, which is that of Denver; and the Pacific States employ the 120th meridian. The time divisions are known as intercolonial time, eastern time, central time, mountain time, and Pacific time. A traveler passing from one time belt to another will find his watch an hour too fast or too slow according to the direction in which he is going. All points in any time division using the time of the meridian must set their time-pieces faster or slower than the time indicated by the sun, according as their position is east or west of the line. This change of system reduced the time standards used by the railroads from fifty-three to five, a great convenience to the railroads and the traveling public. The suggestion leading to the adoption of this new system originated with Professor Abbe, of the Signal Bureau at Washington, and was elaborated by Dr. F. A. P. Barnard, of Columbia College, New York. The scheme was proposed in 1878, but was not adopted until it had been submitted to a number of scientific associations at home and abroad and received their approval.

#### THE GOAT.

CHICAGO.  
Of what country is the common goat a native? Is how cold a climate will it live? Tell something about its life and habits.  
W. N. SMITH.

*Answer.*—The common or domestic goat was originally a native of the highlands of Asia. Naturalists generally regard it as having descended from an animal found in the Caucasus Mountains and the hill country of Persia, called in the Persian language, the pasenz. Its legs are longer than those of the common goat, and its horns are very much larger. It is not always easy to distinguish between the species and varieties of goats. The common goat has existed as a domestic animal in Oriental countries from the very



earliest times. From there it spread all over the world, manifesting a remarkable adaptability to climate and circumstances. In this diversity of surroundings, a great diversity of breeds has appeared, such as the Angora goat, the Syrian goat, the Cashmere goat, the Guinea goat of Africa, and many others. No quadruped, except the dog, has shown such susceptibility of variation. These differences show most markedly in the quality and quantity of the hair, and in the relative abundance of the two coats, the long, silky outer covering and the softer woolly hair beneath it. Goats are found wild in mountainous countries only; they are very sure-footed on narrow ledges or rocks, and show great strength and ability in leaping. They also prefer as food the leaves and branches of shrubs and the herbs found on mountains to the herbage of the richest lowland pastures. Among the Greeks and Romans the goat was sacrificed to Bacchus because of its tendency to injure grapevines by eating its young tendrils and leaves. The goat is not found wild in extreme Northern countries, but when under domestication thrives as well within a shed in the Northern districts of Scandinavia as in the hottest parts of Asia and Africa. All the species of the goat are natives of the Old World. The Rocky Mountain goat, so-called, of North America, really belongs to the antelope family.

#### THE BATTLE IN HAMPTON ROADS. RALPH CITY, W. T.

Give an account of the battle in Hampton Roads, the loss of the Cumberland, and the fight between the Monitor and the Merrimac. E. G. GRAHAM.

*Answer.*—When the Confederates took the navy yard at Norfolk they scuttled and sunk the finest vessel in the yard, the Merrimac. Subsequently they raised the vessel, and fitted upon her a sloping roof of interlapped railroad iron and an immense iron beak. When afloat she looked like a huge house sunk in water to the eyes. A little before noon, March 8, 1862, this formidable vessel made her appearance in Hampton Roads. She passed the Union batteries, heeding their shot and shell no more than drops of rain, and made for the sloop-of-war Cumberland, which she sunk immediately with one stab from her great beak. She then attacked the Congress, which she seriously disabled and forced to surrender. Time was allowed to remove the wounded from the latter vessel, and she was then set on fire. It was now evening, and the Merrimac returned to Norfolk, confident of an easy victory over the rest of the Union fleet on the following day. That night the Monitor, an ironclad turret vessel, which had been built for the United States Government by Captain John Ericsson, came to the assistance of the wooden fleet. Early on the morning of the following day, Sunday, the Merrimac appeared again, and bore down with all her force upon the Minnesota. Suddenly the unexpected little antagonist darted out to oppose her. A terrible duel between the two ironclads ensued. The shots of the Merrimac had no more effect upon the Monitor than to tear her pilot-house a little. The Merrimac received several well-directed shots in her

portholes and was considerably disabled. Twice the Merrimac attempted to run the Monitor down, but with no effect. At last the Confederate vessel gave it up and steamed off to Norfolk. The importance of this battle lay in the fact that it gave the death knell to wooden war vessels and began a new era in the naval history of the world.

#### SECOND BOARD OF TRADE REGIMENT.

DENVER, COLO.  
Give a sketch of the Eighty-eighth Illinois Regiment, to oblige some of the boys in the West.

T. E. WATSON.

*Answer.*—The Eighty-eighth, commonly known as the "Second Board of Trade Regiment," was mustered into the service at Chicago Aug. 27, 1862, under the auspices of the City Board of Trade. Sept. 4 it went to Louisville, and four weeks later we find it taking part in the battle of Perryville, and under General Sheridan it was at the battle of Stone River. Then it went through the Tullahoma campaign to the battle of Chickamauga, and at the latter fight was driven back, but not till after some hard fighting. At Mission Ridge it was one of the first to plant its colors on the heights. Under General Sherman it took part in every battle of the Atlanta campaign. It was then sent to watch Hood, and was at the battles of Franklin and Nashville. After Hood's retreat the regiment remained in camp until June, 1865, when it returned to Chicago and was mustered out and discharged.

#### THE GOVERNORS OF WISCONSIN.

CHAMPAIGN, ILL.  
Please give the Territory and State Governors of Wisconsin, and dates of their terms of office.

W. R. McCORD.

*Answer.*—The following is the list, with dates as desired:

<i>Territorial Governors.</i>	
Henry Dodge.....	1836-41
James D. Doty.....	1841-44
N. P. Talmadge.....	1844-45
Henry Dodge.....	1845-48
<i>State Governors.</i>	
Nelson Dewey.....	1848-52
Leonard J. Farwell.....	1852-54
William A. Barstow.....	1854-56
Arthur McArthur.....	1856
Coles Bashford.....	1856-58
Alex. W. Randall.....	1858-62
Louis P. Harvey.....	1862
Edward Salomon.....	1862-64
James T. Lewis.....	1864-66
Lucius Fairchild.....	1866-72
C. C. Washburn.....	1872-74
Wm. R. Taylor.....	1874-76
Harrison Ludington.....	1876-78
Wm. E. Smith.....	1878-82
Jeremiah M. Rusk.....	1882—

#### LYMAN TRUMBULL.

CHICAGO.  
Give a brief sketch of the life and public services of Lyman Trumbull. J. MONTGOMERY.

*Answer.*—Lyman Trumbull was born at Colchester, Conn., Oct. 12, 1813, and was educated at Colchester Academy. He taught school for several years after completing his education, then studied law, and was admitted to the bar in 1837. He came to Illinois, and began the practice of his profession in Belleville. He was elected to the State Legislature in 1840; was Secretary of State 1841-42; Justice of the Supreme Court 1848-53; Representative in Congress 1853-55, and United States Senator 1855-

73. He was prominent as a Republican during the war, and became Chairman of the Judiciary Committee in 1861, and during his long term in the Senate held positions on several important committees. In 1864 he was made a regent of the Smithsonian Institution, and in 1866 was a delegate to the Loyalists' convention at Philadelphia. Since 1863 he has resided in Chicago.

#### THE BATTLE OF GETTYSBURG.

CONWAY, IOWA.

Give a description of the battle of Gettysburg.

D. W. C. SMITH.

*Answer.*—The memorable battle of Gettysburg was fought July 1, 2, and 3, 1863. General Lee, taking advantage of the inaction of the Federal army after the battle of Chancellorsville, planned an invasion of the North, and for that purpose concentrated the entire Army of Virginia near Culpeper, whence it began to move slowly northward early in June. These forces, which numbered, including cavalry, upward of 90,000 men, were in three corps, commanded severally by Generals Ewell, Longstreet, and A. P. Hill. The cavalry, some 15,000 men, were under General J. E. B. Stuart. Ewell's corps was in advance, and, marching by Winchester, it surprised and captured the Union force and supplies there, and then pushed forward into Pennsylvania. Lee's entire army crossed the Potomac June 24 and 25 in two columns, which united at Hagerstown, and thence moved toward Chambersburg, Pa. Hooker's army had moved northward at the same time, in a line parallel with the Southern forces, and on June 27 and 28 it also crossed the river. Hooker now desired to make an attack on Lee's rear, but as General Halleck would not permit him to make the arrangements for that which he considered necessary, he asked to be relieved of his command. Meade was immediately put in his place, and the Union forces were concentrated to follow as rapidly as possible after the invaders. Ewell had in the meantime reached Carlisle, Pa., while Longstreet and Hill halted at Chambersburg. The cavalry under Stuart had crossed the Potomac below Hooker's army, and on getting over found the Union forces between them and Lee, and were obliged to make a wide detour to join the Confederate commander. This force, therefore, did not reach Gettysburg until the third day of the battle. Meanwhile Lee, perceiving that he could not continue his movement northward until he had routed the army which hung so menacingly upon his flank and rear, resolved to concentrate his whole force in the direction of the enemy and give battle. He therefore ordered a movement of all the troops to unite at Gettysburg, as that point controlled the roads toward the Potomac. Meade, learning of this movement, brought together his columns rapidly, took the general line of Pipe Creek for his defense, and throw his left wing forward to Gettysburg. On the morning of July 1, General Hill, whose corps was in advance, when about six miles from Gettysburg, learned that the town was occupied by the Union troops. Sending back word to hasten Longstreet, he moved on, and about two miles northwest of Gettysburg, met a cavalry force of Federal

troops, and the fight opened. Infantry were now hurried forward to the support of the cavalry under Generals Reynolds and Howard, and a severe engagement ensued. Reynolds was killed early in the fight and the command devolved upon Howard. At first the Union forces were superior in numbers, and gained decided advantage, but in a few hours Ewell's corps had reinforced the enemy, and the Federals were driven back in confusion through Gettysburg, losing over 5,000 in prisoners. General Meade was then fifteen miles away, and as soon as he heard of the fighting, he sent Hancock forward to take chief command and to decide what should be done. Hancock, noting the natural advantages offered for the disposition of an army, decided that there was the place to give battle, and sent word to Meade to hurry all his men forward. Some of these came up during the night, others on the following morning, so that by the afternoon of July 2, the bulk of the two armies was in position. To give some idea of the plan of battle, the ground may be described. South of Gettysburg there is a chain of bluffs and hills, in shape resembling a fish hook, known as Cemetery Ridge. At the extreme south of the stem of this fish-hook is a lofty wooded peak, called Round Top, and, separated from it by a ravine, a smaller hill, called Little Round Top. At the bend of the hook rises another peak, known as Cemetery Hill, and on the barb is Culp's Hill. The Union army was posted along the whole line of Cemetery Ridge. About a mile distant is another chain of hills, running nearly north and south, called Seminary Ridge. The general line of Lee's army lay along this ridge, with its left thrown round and through the town to a point opposite Culp's Hill. Longstreet's corps was on the right of this line, Hill's in the center, and Ewell's on the left. The Confederate army was thus formed in concave order of battle, the army of the Potomac having been thrown by the lay of the land into substantially the convex order. The battle was not renewed until 4 o'clock on the afternoon of July 2. Then Lee, having perfected his plans, ordered an attack by Longstreet on the Union left, at the same time that Ewell made a demonstration against the forces stationed on Culp's Hill, on the extreme Union right. His object was to gain possession of the two commanding points, Culp's Hill and Round Top, whence fire could be turned upon the Federal line with great effect. Sickles, who had thrown up works to the east of Round Top Hill toward the Emmetsburg road, was first attacked and driven back. The attempt was then made to get possession of Little Round Top, which had in the arrangement of troops been left unguarded. General Warren, however, discovered the error as soon as the Confederates did, and sent several regiments to the rescue, so that when Hood's division came swarming up the rugged sides of the hill they were met with a fire that made them reel backward. The attempt to carry this hill was renewed several times before nightfall, but without success. Sickles, however, was driven back, and the enemy entrenched themselves in the position which he had first held. On the



right, Ewell had driven Slocum from Culp's Hill, and disposed his men within the Union entrenchments. When night fell, Lee believed that he had effected a breach in both flanks of the Union army, and that he might be able on the morrow to carry the entire ridge. Indeed, the situation was regarded by General Meade as so serious that he called a council of his corps commanders to consider the advisability of changing the position of the troops. But the officers were in good spirits, and it was determined to abide the result at that spot. Had Lee known what little advantage Longstreet had gained, he would have been less sanguine, for though Sickles had been forced from his outworks and heavy loss inflicted on the Union army, Meade's real line had not been disturbed. With day-break the struggle was renewed, a heavy force being first thrown against Ewell's position, which after a desperate struggle compelled him to yield his favorable position on Culp's Hill. By some accident Lee was not made aware of this mishap, otherwise Ewell's force, which was now comparatively inactive, would probably have been called upon to aid in the desperate attack upon the Union center. On Seminary Ridge the Confederates had placed 120 guns, and at 1 o'clock they opened fire. Owing to the inequalities of the ground General Meade had not been able to put more than eighty guns in position, but the Union soldiers were so well sheltered by the crest of the hill that they suffered comparatively little during the terrible two hours' duel with the cannon. About this time firing ceased for a while on the Union side. Lee, supposing that the batteries had been silenced by his fierce firing, now ordered the grand attack of the day, which was to break the center of the Union line. Pickett's division of Virginia veterans, who had not yet been engaged in the fight, were to undertake the desperate task, aided by Pettigrew's brigade. Lee had intended to advance his artillery to support his infantry, but as the ammunition was nearly exhausted this could not be done. Swiftly the column of 15,000 men moved down the hill and across the low ground between the ridges. All the Union batteries immediately opened fire upon them. The column at first headed for the left of the Union center, where Doubleday was entrenched behind a breastwork of rails and stones. Charging around this the men were exposed to a severe flank fire. Still they pressed on until within 300 yards of Hancock's line. These troops had reserved their fire, and now opened it upon the assaulters with such deadly effect that Pettigrew's brigade broke line, and fell backward in confusion. Pickett's division pressed steadily on, charged straight over a stone wall, behind which a regiment of boys in blue was posted, broke Hancock's line, and for a quarter of an hour there was a deadly hand-to-hand struggle. The Union troops hurried from all sides, and drove the enemy back down the slope. The line of retreat was completely commanded with musketry and artillery. Of the assaulting force not one in four reached the Confederate line again alive. Meade's division now advanced on the right and drove back Hood, taking many prison-

ers. This ended the fight for that day. All the following day the two armies remained in position, each waiting for the other's movements. Before night a heavy storm set in, under cover of which Lee began his retreat to the Potomac. He was not molested seriously, and after some days he crossed the river safely, followed by Meade. The two armies at Gettysburg were more nearly equal than in most of the battles of the late war, there being between 70,000 and 80,000 on each side, the Northern army having a few thousand more than the other. The loss on the Union side was 23,000, that of the Confederates has been variously estimated, but probably somewhat exceeded 25,000.

#### THE PRESIDENTIAL SUCCESSION BILL.

GARA, Mo.

Give the provisions of the Presidential succession bill as passed by the present Congress.

J. C. GARROW.

*Answer.*—This bill repeals the former law which made the President pro tem. of the Senate, and after him the Speaker of the House, the legitimate successors to the Presidency. Under the new law, in the event of the death or disability of both President and Vice President, the functions of the Presidential office shall be performed by the Secretary of State for the remainder of the Presidential term. Should the Secretary of State die or become incapacitated for duty the succession will pass to the Secretary of the Treasury, and after him to the other members of the Cabinet in the following prescribed order: Secretary of War, Attorney General, Postmaster General, Secretary of the Navy, and Secretary of the Interior, the succeeding officer acting to the end of the Presidential term.

#### PAPIER MACHE.

SPARTA, Ill.

How is papier mache made and what are its uses?

L. HUBSCHMAN.

*Answer.*—The name papier mache is applied to paper pulp mixed with glue and dried, or paper sheets pasted together and molded. The cheaper articles of papier mache are made of paper reduced to a pulp with water and glue and pressed in oiled molds. Better articles are produced by pasting together sheets of paper, and when a proper degree of thickness is attained it is pressed into the shape desired. When moist this substance may be made to take any form and when dry may be planed into any shape. It may then be varnished, several coats being applied, and any inequalities remaining rubbed off with pumice stone. If ornamented with gold, bronze powder, or colors, a thin varnish of shellac must be subsequently applied, and then dried at a very high temperature. A brilliant surface can be had by polishing with rotten stone and oil. Papiermache is much used to make architectural ornaments, both for exterior and interior decoration. The sheets of paper, placed in layers with glue, are pressed into metal molds for some hours. Then they are removed, and a composition of paper pulp, mixed quite thin with rosin and glue, is poured in, and the paper impressions are again put in and subjected to powerful pressure. This causes the composition to



adhere to the molded articles and give them the rough surface that is desired. Papiermache can be made waterproof by adding to the pulp sulphate of iron, some of the silicates, and fireproof by mixing with clay and borax, phosphate of soda, or any alkali. Papier-mache is the substance used to take impressions from type in the process of stereotyping. It is also used to make cheap statuettes, and also ornamental boxes. To imitate marble, whiting is added to it in large quantities.

#### FRENCH DISCOVERIES IN AMERICA.

MEDINA, N. Y.

Give an account of the French discoveries and explorations in America, by whom and when made.

OWEN FULLER.

*Answer.*—As early as 1504, French fishermen had found their way to the fish-stocked bays and inlets on the banks of Newfoundland, and in 1506 a Frenchman made a map of the Gulf of St. Lawrence and its islands. In 1518 the attention of Francis I. was turned to the colonization of the New World, and five years later the government had formed the plan of a voyage of exploration and discovery, and commissioned John Verrazani, a Florentine, to conduct the expedition. Its special object was the discovery of a northwest passage to Asia. Verrazani set sail in January, 1524. He encountered much stormy weather, and three of his four vessels were lost, but in March he reached the new continent, and after sailing up and down the coast some time he anchored on the beach between Cape Fear River and Pamlico Sound. After some traffic with the natives he sailed northward, explored the whole coast of New Jersey, entered the harbors of New York and Newport, and thence passed northward along the coast and reached Newfoundland in May. In July he returned to France and published an account, still extant, of his discoveries. He gave the name of New France to the whole country, whose seacoast he had traced. The next expedition was decided upon in 1534 and the government selected James Cartier, a Breton captain, to conduct it. Two ships were fitted out, and, after a twenty-day voyage under cloudless skies, anchored May 10 on the banks of Newfoundland. He explored the Gulf of St. Lawrence, and, in hope of finding an open passage through the land, sailed many miles up the river. Disappointed in this he returned and set sail again for France. In the next year another voyage was planned, this time for the direct purpose of planting a colony. Three large vessels were fitted out, and a number of adventurous young noblemen joined the expedition. The vessels cast anchor on the south coast of Newfoundland, Aug. 10. This being St. Lawrence's Day, the name of that martyr was given to the gulf and afterward to the river. Journeying up the river they came to a beautiful Indian village on an island. Climbing to the top of a high hill overlooking the village, Cartier, much struck by the beautiful scene, named the island and town Mont-Real. The country was taken possession of in the name of the king of France. The fleet remained at anchor in the river through the winter. The scurvy, a disease hitherto unknown in Europe, broke out among the sailors,

and many died, and all suffered greatly from the cold, so that by the opening of spring the enthusiasm of the colonists was wholly dissipated, and they eagerly set sail again for France. Cartier's truthful account of the new country had the effect of abating the desire to send colonies thither, and when, four years later, Roberval, a nobleman of Picardy, was commissioned by the court of France to plant a colony on the shores of the St. Lawrence, it was found quite impossible to secure the colonists needed. The government supplied the lack by offering freedom to all those criminals in the prisons who would agree to join the expedition. This company built a fort on the present site of Quebec, which they called Charlebourg, but like the previous colony they were so discouraged by the experiences of one winter that they all returned to France in the spring. During the sixteenth century several attempts were made by the Huguenots to plant colonies on the St. John's River in Florida. The first of these, after enduring sickness and starvation, built boats, in which they attempted to return to France, and were picked up at sea in an almost dying condition by an English ship, which took them back to their native country. The members of the second colony were attacked by the Spaniards and all murdered. All the Southern colonies were, in the end, failures. It was in the North that the French flag was destined to hold sway for a time. In 1604 De Monts received from the French government a patent for the rule of the new world from the latitude of Philadelphia to one degree north of Montreal, with monopoly of the fur trade in the territory and religious freedom for French immigrants. Nov. 14, 1605, the first permanent French settlement in America was founded, on a harbor on the northwest coast of Nova Scotia. The name Port Royal was given to the harbor and the fort, and the country was called Acadia. Two years before this one of the most noted of the French voyageurs, Samuel Champlain, had made an exploring journey to the St. Lawrence and established a trading post on the site of Quebec. In 1608 he again came out with a company, and the foundations of the city of Quebec were laid in July of that year. In the following year, Champlain and the other Frenchmen joined a party of Huron warriors who were going to fight with the Iroquois nation. On this expedition he discovered the beautiful lake which has ever since borne his name. Champlain's explorations through the new country, and the great influence which he acquired over the Indians, did much to strengthen the power of the French in America. In 1620 he laid the foundation of the strong fort of St. Louis which was completed four years later. Champlain was now made governor of the several French colonies. He founded a college in Quebec, and brought over missionaries and teachers to instruct the young Indians in the French language, in civilization, and Christianity. He died in 1635, and was buried in a chapel in Quebec. Champlain was a religious enthusiast. Indeed, all the French colonists largely gained



their influence over the red men by their desire to instruct them in religion. Another noted explorer, Jacques Marquette, was sent to Canada as a Jesuit missionary in 1666. After learning the Indian language, he went to the Lake Superior region, and thence explored the valley of the Mississippi. A full account of his life and discoveries will be found in *Our Curiosity Shop* book for 1885. Jolliet, another missionary, accompanied him. Jolliet returned to Quebec, but Pere Marquette died in the Wilderness. La Salle was another noted explorer. He came over in 1667 to engage in the fur trade, but was seized with a desire to extend, by exploring the new country, the glory and domain of France. His first journey down the Illinois River was unsuccessful. In 1682 he went down the Mississippi to its mouth, took possession of the territory in the name of Louis XIV., King of France, and called it Louisiana. La Salle returned to Quebec and thence to France. In 1684 he started with a fleet of four vessels and a colony of 280 persons to settle in Louisiana. By a mistake the ships sailed by the mouth of the Mississippi, and the colonists were landed in Matagorda Bay. The store ship was wrecked and the other vessels treacherously deserted the colony. But La Salle did not give up. He built a fort and then started out to find the great river again. This journey ended in disappointment and an attempt was then made to find the gold mines of New Mexico. This also was a failure, and in January, 1687, the heroic explorer set out with sixteen members of the poor remnant of his colony to find their way by the Mississippi back to Canada again. On the banks of the Trinity River, Texas, La Salle was shot by one of his own men. Another noted French pioneer was Iberville, who had won fame as an officer in the wars with the English. In 1697 he was sent to occupy the mouth of the Mississippi. He built Fort Biloxi, and established other stations on the river. In 1701 he transferred the colony to Mobile, thus beginning the colonization of Alabama. Tonty, though a companion in this work of French exploration, was an Italian by birth. He was with La Salle in his first expedition down the Illinois, aided him in building the fort at Peoria, and remained in command there when La Salle returned to Canada. He attempted to found a white settlement in Arkansas but failed. Twice he journeyed down the Mississippi to meet La Salle while this ill-fated hero was in Texas. After the arrival of Iberville he made the journey again, and settled in the Gulf region. Tonty's accounts of La Salle's discoveries have been translated into English, and are regarded as valuable historical memoirs.

#### THE GARDEN OF THE GODS.

PULLLEY'S MOUNTAINS, ILL.  
Give a description of the Garden of the Gods in Colorado.  
E. A. SHEPARD.

*Answer.*—The Garden of the Gods is the fanciful title of a little mountain valley lying four miles northwest of Colorado Springs. The road enters it through the "Beautiful Gate," which is a narrow passage-way between two lofty but narrow ledges of cliffs which is still further nar-

rowed by a rock pillar thirty feet high, standing nearly in the center. The Garden consists of a tract of land somewhat less than 500 acres in extent, hemmed in by mountains on the west and north, bordered by ravines on the south, and on the east by a line of old red sandstone cliffs, which shut it in entirely from the plains. Its remarkable features are a number of isolated rocks, upheaved into perpendicular positions, some of them 350 feet high. These rocks are mainly of a very soft, brilliantly red sandstone, though several ridges are of a white sandstone. The foothills in the vicinity are many of them capped by similar upheavals, while all about the main cliffs in the valley are numerous separate spire-like columns.

#### THE AFGHANS.

LEBANON SPRINGS, N. Y.

Give some account of the Afghans. Do they consider themselves the Lost Tribes of Israel? What is their language? Have they any literature?

T. P. HUGHES.

*Answer.*—The Afghans themselves claim descent from Saul, the Benjamite King of Israel, through a mythical son named Afghana. This claim is not borne out by the Jewish scriptures, but there are good reasons for believing that the race is of Israelitish descent. They have customs and traditions that are evidently founded on the Mosaic law, and there seems to be no doubt that after the dispersion of the ten tribes by Assyria a number of Israelites made their way into Central Asia. Though they accept the Mahommedan religion, the Afghans still claim the name Ban-i-Israel—children of Israel; still pride themselves on their supposed descent from "Malik Sarul"—or King Saul; and still maintain, though in corrupted form, religious rites which they brought from Palestine several centuries before Christ. Up to the eighth century A. D., the Afghan tribes had been confined to the mountains of Ghor in northern Khorassan. Having accepted the religion of the prophet they then joined with the Arabic conquerors and drove the Hindoos out of Kabulistan. Two centuries later they were themselves conquered by the Tartars, in 975. These invaders established a foreign dynasty, which held the throne until 1150, when it was overthrown and driven from the country by an Afghan chief. Soon after this the Afghans invaded India and established an empire at Delhi which they held until 1525. Meanwhile the Tartars had pushed them from the northern part of their own country, and the whole country was conquered by Tamerlane, and subsequently by the Turko-Persians, who also subjugated upper Hindostan. The Afghans, however, not long after regained control of their own kingdom, and were ruled by their own chiefs from 1530 to 1738. In the latter year, Nadir Shah conquered the country, but did not control it long, for he was assassinated in 1737, and an Afghan chief, in the Persian army, assumed control in the Afghan kingdom. There have been changes of dynasty since then, and struggles over the question of succession, but the Afghans have not since been forced to accept a foreign ruler. There are two principal tribes in Afghanistan, known as the Ghilzais and the Dur-



ranis, often at feud, though of like race and descent. The Durrans are the more powerful of the two, and furnish the most of the army. The Afghans are a brave, hardy, and independent race. They have none of the commercial inclinations that have marked the Jews in all ages, and follow only agricultural and pastoral occupations. In religion they are, as already stated, Mohammedans. They belong to the Sunnite sect, and are therefore opposed to the Persians, who are Shiites, but they are by no means bigoted, and are tolerant toward Christians and Hindoos. The Afghan language has two principal dialects, the Pukh-tu and the Push-tu, spoken in different parts of the country. It is written in Persian characters, and has many points of likeness to the Iran tongue, though it has become corrupted with admixture of words from the Tartar and the Hindoo languages, and is much harsher in sound than the Persian speech. Its harsh intonation so grates on the ear that the Persians have a tradition that Mohammed described it as the language of hell. Previous to the fifteenth century no literature at all seems to have existed in the Afghan tongue, but since that period there have been several poets who wrote during the sixteenth and seventeenth centuries. There are also some writings on historical and religious subjects, but none earlier than the last four centuries.

#### EIGHTH ILLINOIS CAVALRY.

Houston, D. T.  
Give a sketch of the Eighth Illinois Cavalry.  
H. L. Brown.

*Answer.*—The Eighth Illinois Cavalry was organized at St. Charles, Sept. 18, 1861, Colonel John F. Farnsworth commanding. In October it went to Washington, and Dec. 15 was sent to Alexandria, and assigned to General Sumner's division. It went to the Rappahannock in February, 1862, and was scouting along the river until May, when it followed McClellan's army to the Peninsula. The regiment was among the first to enter Williamsburg, and had the perilous honor of leading the army's march on Richmond. It participated in all the battles of the campaign, and covered the retreat to Harrison's Landing. In the incessant skirmishes of the next month the Eighth was constantly engaged. After coming up the Potomac from the Peninsula it was in advance of the force sent to meet Lee at Frederick, and was in the thick of the battles at South Mountain and Antietam. It was in the advance of Burnside's army when it moved, being in continual skirmishes, and was the only cavalry regiment on the field of Fredericksburg, being under fire, but not actually engaged. In the spring it made a raid on Richmond, and returned just in time to witness the close of the struggle at Chancellorsville. At Beverly Ford it distinguished itself with especial bravery, and it began the battle on the bloody field of Gettysburg, and in the first day's fight saved General Doubleday's division from slaughter. This regiment claimed the honor of originating veteran re-enlistments, a majority offering to re-enlist as a regiment as early as July, 1863. The War Department then objected to the measure, but consented toward the close of the year, and

re-enlistment was complete before Jan. 1, 1864, and with new recruits the regiment numbered 1,140 men. Feb. 3, 1864, it resumed duty as provost guard at Washington, where it remained until June, when it was sent to Western Maryland to meet Early, and after a severe campaign succeeded in driving the invader across the Potomac. It went to Loudon Valley in August, and later to Fairfax Court House, where it wintered. After the death of President Lincoln the regiment was again on duty at Washington. May 23 it went back to Fairfax, June 23 it went to St. Louis, and July 17 was mustered out, paid off, and went home.

#### TWENTY-SECOND WISCONSIN INFANTRY.

Freil, Neb.  
Would like an account of the Twenty-second Wisconsin Infantry. What became of Colonel Utley, one of its commanders?  
F. A. WARREN.

*Answer.*—The Twenty-second Wisconsin Infantry was enlisted from the counties of Rock Racine, Green and Walworth. They were mustered in Sept. 2, 1862, and two weeks later were sent to Cincinnati to protect that city from a threatened attack. Oct. 7 they were sent on to Lexington. They performed guard duty and scouting until February, when they went to Nashville, and thence on to Franklin. In the battle of Spring Hill Colonel Utley and nearly 200 men of the regiment were captured. March 25 about 500 more men of the Twenty-second, while guarding a railroad, under their lieutenant colonel, were surprised and overpowered by a superior force and taken prisoners. These were exchanged and reached Nashville again in June. The regiment was with Sherman's army in the battles of Resaca, Dallas, Kenesaw, Peach Tree Creek, and Atlanta, and went through with this army to the sea. It took part in the grand review at Washington, and the men were mustered out June 10 and sent home for final discharge. Colonel Utley still lives in Racine, Wis.

#### NORTHERN BOUNDARY OF ILLINOIS.

Marietta, Ohio.  
Why does the northern boundary of Illinois extend over two tiers of counties north of where it was placed by the ordinance of 1787—"through the southern bend or extension of Lake Michigan."  
J. S. B., Jr.

*Answer.*—The ordinance of 1787 made the northern boundary of the United States the northern boundary of Illinois, but reserved to Congress the right to form one or two States as it might desire, in that part of the Territory north of an east and west line through the southern boundary of Lake Michigan. This line was understood to form the northern boundary of Illinois when it was formed into a Territory. This was changed, and Cook County, with two tiers of counties north of it, given to the State, through the influence of Judge Pope, who was Territorial Delegate from Illinois in Congress in 1818. In January of that year a petition was sent from the Territorial Legislature, asking admission for the Territory as a State. Judge Pope brought the petition before Congress and was instructed by the committee to whom the matter had been referred, to report a bill in accordance with the request of the petition. This he did, making two alterations, to wit:—extending the north boundary to 42 degrees, and appropri-



ating the 3 per cent fund to schools, instead of to roads. Judge Pope made these changes without authority from his Territory, and on his own responsibility, but when they became known they were fully approved by the people of Illinois. Judge Pope, it is said, even then perceived what an important commercial point was destined to develop at the harbor of the Chicago River. At least, he foresaw that the commerce of the lakes would render Illinois a strong State if it could be secured to her; and further, that Illinois, if a powerful State commercially, would form a very strong bond in holding the sections of the Union together. Of course, the lawfulness of this change of boundary was contested by the Territory of Wisconsin, but it was justified on the plea that if Congress could not be allowed the right to change the boundary, that laid down in the ordinance of 1787 would remain in force, by which the territory of Illinois extended to Canada.

#### TWENTY-EIGHTH WISCONSIN INFANTRY.

Would like to have a history of the Twenty-eighth Wisconsin Infantry, with list of regimental officers.  
HUMBOLDT, Neb.  
C. DART.

*Answer.*—The Twenty-eighth Wisconsin Infantry was mustered into service at Milwaukee Oct. 14, 1862. Its regimental officers were Colonel, James M. Lewis; Lieutenant Colonel, Charles Whitaker; Major, E. B. Gray; Adjutant, John A. Savage, Jr.; Quartermaster, George W. Wylie. In December the regiment was sent to Kentucky, and in January was ordered to Arkansas to take part in the White River expedition. On returning from that it embarked for the Yazoo Pass expedition, designed to take Fort Pemberton, and, that being a failure, it returned to Helena, where it performed post and garrison duty until the attack of the rebels on this place July 4, 1863. Aug. 6 the Twenty-eighth was transferred to the army of Arkansas, and left with General Steele's command for Little Rock. That city was captured by the cavalry advance and immediately occupied by the Union forces. The Twenty-eighth spent the following winter at Pine Bluff. In March, 1864, it accompanied the Sabine River expedition, and had a sharp encounter with the enemy at Longview bridge. During the summer the regiment was at work on the defenses at Pine Bluff. In February, 1865, it was sent to New Orleans, and thence to Spanish Fort, near Mobile. After the capture of that place it was stationed at various points in Alabama until May 31, when it was sent to Texas, and was in garrison at Clarksville, near the mouth of the Rio Grande, until Aug. 3, when it was mustered out and sent home. The men were disbanded at Madison Sept. 15, 1865.

#### GLADSTONE'S HOME RULE BILL.

Give the main points of Gladstone's bill for Irish home rule.  
ORANGE, Pa.  
P. A. CULVER.

*Answer.*—Mr. Gladstone proposed the establishment of an Irish parliament to make laws and administer internal affairs for the Irish. This proposed parliament was to consist of two orders sitting in debate as a joint assembly, but with power to divide and vote separately in case of

disagreement. Either order was to be allowed power to veto the acts of the other, the veto lasting three years, or till a new election. The first order was to consist of the twenty-eight Irish life peers, and seventy-five representatives of the people, elected for ten years, under a property qualification for both elector and member elected. The second order was to consist of 206 members elected by popular suffrage. The bill provided that the internal taxation of Ireland should be wholly in the hands of this parliament, but to preserve the fiscal unity of the empire the tariff should be controlled by the British parliament. The proceeds of the Irish custom-houses, however, were to be held for the benefit of Ireland and for the discharge of the obligations of the Irish government. The judiciary and civil service of Ireland were to be turned over immediately to the management of the home government, but the constabulary was to continue, for a time, under the authority of the British government. These are the main details of the bill for home-rule laid by Mr. Gladstone before the Imperial Parliament, April 8, 1886. April 17 he presented his Irish land bill, which was intended to go into effect simultaneously with the home-rule measure. This proposed that the landlords of Ireland should be permitted to sell out their estates at a fair price to the government, which should pay them in 3 per cent annuities. The government was then to resell the land to the tenants, who were to pay for it in annual installments. Land commissioners were to be appointed, whose duty it should be to appraise the price of the land, and collect it from the tenants. The basis of prices was fixed at the rental for a fixed period—about twenty years.

#### WATCH MAKING.

Tell us something about the process of watch making.  
DELAVER, Ill.  
J. H. CONNELL.

*Answer.*—The process of watch making by hand differs greatly from that of watchmaking by machinery. Only machine-made watches are made in America, so we shall confine our brief description to them. But the process should be witnessed in order that it may be fully understood. The foundation of the watch is what is technically called the plate—or rather it is two plates, an upper and under, which enclose the running gear. In these plates, which are of hardened and gilded brass, or sometimes of nickel, are drilled the holes for the jewels on which the axles of the wheels revolve, and for the tiny screws which hold the jewels in place. Any lettering which is to be put upon the plates is then engraved upon them. The jewels used are, in American watches, of ruby, sapphire or garnet; they are finished with great care, and vary, according to the size of the watch movement, from 1-300 to 1-1200 of an inch in diameter. The finest movement made in American watches has nineteen jewels, the cheapest has seven. The jewels are now inserted in the pivot holes, and fastened there with screws so fine that it takes 150,000 of them to weigh a pound. Then the axles of the wheels are inserted in the pivot-holes, the wheels are geared to each other, and

the watch movement is set up. All the wheels are stamped out in blanks and the teeth cut by machinery in quantities of thirty or fifty at a time. The escapement is also made by machinery, the cutting of its peculiar teeth involving six different operations. The balance wheel goes through similar operations. The American watch movement has no fusee or chain; the power it needs is stored in the mainspring and barrel and let out in regular motion by the escapement and compensating balance. The number of parts in an American watch is from 156 to 162. The great advantage in machine-made watches is that every part is exactly duplicated thousands of times, so that any broken or defective parts can be replaced without difficulty. The perfection of all smaller parts, so readily secured by machinery, and so hard to attain with hand-work, has made it possible for American watchmakers to furnish time-pieces of exceptional accuracy at a comparatively small cost. There are no better watches in the world for time-keeping than those made by American watchmakers.

#### THE FATES.

Explain the line which occurs in the poem of Lucile—"And the three blind old women sit spinning the world."

OTTAWA, ILL.

I. D. S.

*Answer.*—The allusion is to the mythological fable of the Fates. In Grecian mythology the Parcae, or Fates, were three women, the daughters of Darkness or Night. But the theogony of Hesiod, the most accurate existing exposition of ancient mythology, makes them the daughters of Jupiter and of Themis, the goddess of Order. The Fates had control over the universe, and particularly over human destinies, presided over all great events in the lives of men, and executed the decrees of nature. Or, to speak more properly, they personified the decrees of nature, for according to the poets, even the "immortal gods," and "cloud-compelling, mighty Jove" himself, were unable to disobey or set aside a decree of the Fates. These dispensers of destiny are represented as always spinning. Clotho, who presides over the birth of men, holds the distaff; Lachesis, who ordains the conditions of human life, twirls the spindle, paying out the thread, while Atropos, who presides over death, has a shears in her hand, with which she cuts the thread of life, when it has reached a proper length. The earlier poets pictured the Fates as young women of a stern and serious aspect; later, the prevalent conception of them was that of old and hideous crones, sometimes blind, to betoken the disregard of merit with which the conditions of human life are apportioned.

#### NINETY-SIXTH ILLINOIS INFANTRY.

GENOA JUNCTION, WIS.  
B. H. GREER.

Would like a sketch of the Ninety-sixth Illinois Infantry.

*Answer.*—The Ninety-sixth Regiment was composed of six companies from Jo Daviess County, and four from Lake County. It was mustered in at Rockford, Sept. 5, 1862. Oct. 8 it left for Kentucky, where it was stationed until the following January, when it was ordered to Nashville. It took part in the Tullahoma cam-

paign, and bore a conspicuous part in the battle of Chickamauga, losing heavily in killed and wounded. It was in the Chattanooga battle, but most of the time in the reserve corps, and after remaining in camp nearly all winter, took part in the attack on Buzzard Roost in February. It then went through the battles before Atlanta, Resaca, New Hope, and Kenesaw Mountain, and lost 117 men in the campaign. When the Fourth Corps started on the march through Georgia, the Ninety-sixth was detached and returned to Pulaski. It was in the battles of Franklin and Nashville, and afterward remained stationed at various points in Alabama and East Tennessee until June, 1865, when it returned to Chicago for final discharge.

#### TO SKELETONIZE LEAVES.

CHICAGO.

Tell me how to skeletonize leaves. What chemicals are used?

D. BROWN.

*Answer.*—The usual method is to soak the leaves for a long time in rain water until they are quite decayed, but those who have had considerable experience in the work recommend a quicker method, the immersion of the leaves in a boiling alkaline solution, the time of immersion to be regulated by the character of the various leaves and the nature of the epidermis to be removed. When it is seen that the green part of the leaf is dissolving put the leaf on a flat white earthen plate and cover it with clear water. Then, being gently squeezed with the fingers, the membranes will begin to open and the green substance will come out at the edges. The membranes must be carefully taken off with the finger and great caution must be used in separating them near the middle rib. The skeletons must then be thoroughly bleached by exposing them to the fumes of chlorine gas. If to this vapor be added that of peroxide of hydrogen the fibers of the leaves are strengthened, so that they can be readily arranged—after being dried by pressure between folds of tissue paper—in bouquets.

#### BULGARIA.

CHICAGO.

Give a brief history of Bulgaria, and tell something about its government and people.

E. S. KNIGHT.

*Answer.*—The Bulgarians, though now regarded as the principal division of the Slavs in Turkey, were originally a Finnish tribe living on the banks of the Volga. They penetrated into the Danube country in the seventh century, took possession of the territory now called by their name, and established there an independent kingdom. They soon made friends with their Slavic neighbors, adopting their language and customs. After a long struggle with the Byzantine emperors, the Bulgarians submitted in 1018 to their power. The nation was governed by dukes appointed by the emperor until 1186, when it freed itself by a revolution, and held its independence for two hundred years. In 1389 the Turks invaded the country and in three years subdued it. From that time for nearly five hundred years the unhappy country was ground under the heel of the Ottoman oppressor, only regaining its autonomy by the help of the European powers in 1878. By the Berlin treaty Bulgaria was created a self-governing but



tributary principality, under the protection of the Sultan of Turkey. It was allowed the choice of its ruler, and in April, 1879, the Bulgarian Constituent Assembly elected young Prince Alexander of Hesse as sovereign for life. The government of Bulgaria is administered by the Prince aided by a council of seven Ministers. The legislative authority is vested in a National Assembly of two Chambers. The upper house has twelve members, four appointed by the Prince and eight indirectly elected. The members of the lower house, or Chamber of Deputies, are elected by universal manhood suffrage at the rating of one member to every 10,000 of the population. Their term of office is four years. The Bulgarians are a peaceable, industrious, and not unintelligent people, though ignorant and superstitious, as education is by no means general and centuries of oppression have almost utterly destroyed the spirit of enterprise in them. The great majority of the people live by agriculture and the raising of stock. The principal exports are corn, wool, tallow, butter, cheese, and hides. The country has but 140 miles of railway. There are 1,325 miles of telegraph, built and managed by the government. Civilization is at a low ebb undoubtedly, but great advances have been made since the people became self-governing.

#### NIAGARA FALLS—RIO GRANDE.

CENTRALIA, Kan.  
1. Tell something of the first discovery of Niagara Falls by white explorers. 2. Who discovered Rio Grande River, and when?  
OTIS LOHMULLER.

*Answer.*—1. The first historical notice of the Falls of Niagara is given in Lescarbot's record of the second voyage of Jacques Cartier, in 1535. In reply to an inquiry concerning the source of the St. Lawrence, the Indians told the navigator that the river came from a broad lake, above which there was a cataract and portage, then beyond that another lake. On the maps given in Champlain's voyages, which were published in 1613, the position of the cataract is indicated, and the explorer describes it as being "so very high that many kinds of fish are stunned in its descent." It is not certain from the record that he ever saw it. During the sixty years between the time when Champlain's settlements were established and the expedition of LaSalle, there is little doubt that the great fall was repeatedly visited by French traders. In 1648 a letter from a Jesuit father in New France mentions the three lakes, Huron, Erie, and Ontario, and says that the water falls from the second lake into the third "over a cataract of frightful height." The first description of the falls, however, by one known to be an eye-witness, is that of Father Hennepin. He saw them for the first time in the winter of 1678-9. His description is graphic, but much exaggerated, giving the height of the falls as over 800 feet. Even more extravagant is the estimate of Baron La Houtan, who visited the falls in 1687, and describes them as "seven or eight hundred feet high and half a league wide." The first approximately correct estimate was that of M. Charlevoix in 1721. Having examined the falls on all

sides, he reckons the height as "not less than one hundred and forty or fifty feet." 2. The Rio Grande River was first discovered by white men at the time of the expedition of Francisco Vasquez de Coronado in 1540-41. He penetrated from the Pacific Coast to the river Gila, and traversed the country beyond, visiting the famous cities of Cibola. Thence he traveled eastward through the Pueblo country till he reached the Rio Grande, and about 300 leagues further east before he set out upon his return. He is said to have fallen off his horse when near the Rio Grande River on the return journey, receiving injuries from which he died, and was buried in this river, but nothing is certainly known of the time and manner of his death.

#### THIRTEENTH WISCONSIN INFANTRY.

EAST CHAIN, Minn.  
Give a sketch of the Thirteenth Wisconsin Infantry.  
D. W. WILKINS.

*Answer.*—The Thirteenth Wisconsin Infantry was recruited from the southern counties of the State, rendezvoused at Janesville, and was mustered in Oct. 17, 1861. It left the State for Leavenworth, Kan., Jan. 18, 1862. From Leavenworth it was sent to Fort Scott to join the Southwestern expedition planned by General Lane, and thence went on to Fort Riley, N. M. But as this expedition was abandoned the men were recalled to Leavenworth, and from there sent to Fort Donelson. Here they were employed in guard duty and scouting until December, when they started in pursuit of General Forrest, driving him into Mississippi. During the spring and summer of 1863 they were engaged in scouting and dispersing guerrillas, and later were engaged in guarding the supplies at Stevenson. The ensuing winter the regiment had its quarters at Edgefield, and in February three-fourths of the men re-enlisted and received their veteran furlough. After their return to the field they were engaged in guarding the railroad between Huntsville and Stevenson, Ala., to insure supply communication for the army in front, in which duty there were several sharp skirmishes with the rebels. In June, 1865, the regiment was sent to Indianola, Texas, and was there and at Green Lake and San Antonio until Nov. 24, when the men were mustered out. Though this regiment was never engaged in any severe battle, it had some difficult marches, and deserves honorable record for having always performed its duty and contributing by vigilance and faithfulness to the success of important engagements fought by other regiments.

#### THE SACRED ROCK OF BEHISTUN.

YORK, Neb.  
Describe the sacred rock of Behistun, and tell how it ranks among the Old World antiquities.  
G. E. FAIR.

*Answer.*—Behistun, or Baghistan, is a ruined town of Persia, noted for a precipitous rock in its vicinity, one side of which rises perpendicularly to the height of 1,700 feet, and bears a number of remarkable inscriptions. It was anciently called Mount Bagistanus, and is now known as the Sacred Rock of Behistun. The lines inscribed on the rock are in cuneiform characters, and were engraved by order of the Per-

man king, Darius Hystaspis, about 500 B. C. They are in three languages, Persian, Babylonian, and Scythic, and are on the face of the rock 300 feet from the ground. Examination shows that great labor was expended in making the face of the rock perfectly smooth for the inscriptions, pieces of stone being inserted wherever it was defective and fastened with molten lead. After the inscription had been engraved a coating of silica was spread over it, and this still remains, harder than the rock beneath. The matter of the inscription has been translated by Sir Henry Rawlinson. It gives the genealogy of Darius for eight generations, recounts the provinces of his empire and his various achievements. The monarch is pictorially represented, armed with a bow, his foot upon the prostrate figure of a man, while nine rebels chained together by the neck stand humbly before him. The Behistun inscription is one of the most remarkable ancient inscriptions still existing.

#### THE RODMAN GUN.

LA HARPE, Ill.  
Give a brief description of the Rodman gun.  
G. W. LOCKE.

*Answer.*—As early as 1847 General Rodman, of the United States Ordnance Corps, developed a new theory of the tension of guns. This provided for such a disposition of the metal that when the gun is at rest the interior parts are in a state of compression, while the exterior are in a state of tension. To obtain this result in cast-iron guns, General Rodman had them cast in a hollow core, and cooled from within by passing a stream of water through them. The result was a gun of exceptional strength. In later experiments the cooling of the exterior was further delayed by fires built around the gun in the casting-pit. In form, these guns have great thickness of metal at the breech, and an exterior outline gracefully curved, and altogether without ornamentation or sharp angles or edges. These guns are both smooth bores and rifled. The calibers of the smooth-bores are 8 inches, 10, 13, 15, and 20 inches, and those of the rifles are 8, 10, and 12 inches. All Rodman guns are adapted to the use of solid as well as hollow projectiles. The 20-inch Rodman gun weighs 58 tons, takes a powder charge of 180 pounds, and throws a solid shot of 1,060 pounds.

#### GENERAL THOMAS POSEY—SENATOR M'LEAN.

CALMOUN, Ill.

In an old grave-yard at Shawneetown lie the remains of two distinguished men, General Posey and Senator McLean. Can you tell something of these men and the part they played in our country's history?  
J. P. ROBINSON.

*Answer.*—1. General Thomas Posey was born on the banks of the Potomac July 9, 1750. He received a plain English education and removed to Western Virginia at the age of 19. He was Quartermaster in Lord Dunmore's army, and was at the battle of Point Pleasant in 1774. In 1775 he was one of the committee of correspondence, was Captain in the Seventh Virginia Continental Regiment, and aided in defeating Lord Dunmore at Gwyn's Island. In 1777 he joined Washington's army, and was attached to Colonel Morgan's rifle regiment; was with General Gates at Bemis Heights and Stillwater, and in

1778 commanded a regiment in the campaign against the Indians. In 1779 he commanded a battalion under Wayne, and was one of the first to enter the enemy's works at Stony Point; was also at the surrender of Yorktown. He was in command of a regiment with Wayne's army in Georgia in the fights with the Indians in 1782-83. From 1786-1793 he was County Lieutenant of Spotsylvania, Va., and was appointed to the rank of Brigadier General; was State Senator several years; Lieutenant Governor four years; Major General of Kentucky troops in 1809; United States Senator from Louisiana in 1812 by appointment of the Governor, but superseded by the selection of another candidate by the Legislature. From 1813 to 1816 he was Governor of Indiana Territory, was made agent of Indian affairs in 1816, and held that position until his death, which occurred at Shawneetown, Ill., March 19, 1818. 2. John McLean was born in North Carolina in 1791, and removed with his parents to Logan County, Kentucky, in 1795. He received but a limited school education, then studied law, and in 1815 began the practice of his profession in Shawneetown, Ill. In 1818 he was elected a representative to Congress from Illinois, and served one term. He was for several terms a member of the Illinois State Legislature, and frequently Speaker of the House, and in 1824 was elected United States Senator to fill an unexpired term of one year. In 1829 was elected Senator for the term ending in 1835, but died Oct. 4, 1830.

#### THE SOCIETY ISLANDS.

GREAT BEND, Kan.

Give a brief description and history of the Society Islands, with something about their government, inhabitants, etc.  
W. W. C.

*Answer.*—The Society Islands are a group of small islands in the South Pacific Ocean, situated in latitude 16 to 18 deg. south, longitude 148 to 155 deg. west. Exclusive of islets they comprise thirteen islands of which all but three are under French rule. The combined area of the islands is 580 miles, and the population aggregates about 20,000. Tahiti, or Otaheite, is the largest island, and has an area of 120 square miles. The islands are all of the same general appearance, being mountainous in the interior, with tracks of level and fertile land stretching from the foot of the hills to the sea, and all are surrounded with coral reefs. The islands are abundantly watered, enjoy a delightful climate, and yield tropical fruits in abundance. Agriculture, however, is in a backward state, owing to the indifference of the natives to anything which calls for exertion. The French government some years ago established a botanic garden on Tahiti, and offered seeds to colonists and natives free of cost, and prizes for the finest fruits and vegetables raised. However, the prizes were withdrawn after several years as useless, no efforts being made to secure them and, though the botanic garden is continued, there is very little demand for its seeds and cuttings. The inhabitants belong to the Malay race and are affable, intelligent, and hospitable, but sensual, sly, and idle. They have adopted European dress, and under the influence of the



missionaries, have been trained in the customs of civilization. The chief exports of the islands are cocoa nuts and cocoanut oil, oranges, lime-juice, arrowroot, and pearl shells, which are exchanged for cloth and other manufactured goods. There are no native manufactures carried on. The chief points of trade for the islands are Valparaiso, South America; Sydney, New South Wales; and San Francisco. The annual value of exports is about \$1,000,000; the imports amount to somewhat less. The Island of Tahiti is said to have been visited by the Spaniards in 1606. Captain Cook landed on it in 1769, and also visited a number of the other islands, and gave the group the name of the Society Islands, in honor of the Royal Society in London. The first missionaries reached the islands in 1797. Their teachings seemed to make no impression upon the natives until in 1815 the king of the islands embraced Christianity. Since then the Christian religion has been generally accepted by the natives. The first missionaries were Englishmen and Protestants, and when two French Roman Catholic priests came to the islands about 1840, they were seized and forced to return to their native country. This the French Government made the pretext for taking possession of the islands. There is still a native king, who exercises nominal authority, but he is simply a vassal of the French Government. There has been much dissension between the Romish and Protestant missionaries, but entire religious toleration is now secured.

#### EIGHTY-SECOND ILLINOIS INFANTRY.

CHICAGO.  
Give brief history of the Eighty-second Illinois infantry.

HENRY BARTELS.  
*Answer.*—The Eighty-second Infantry, known as the second Hecker Regiment, in honor of its first Colonel, who had previously had command of the Twenty-fourth Illinois Infantry, was raised in Chicago, and was almost exclusively made up of Germans, except Company I, which was composed of Scandinavians. It was mustered into the service Aug. 26, 1862, at Camp Butler, and left for the field Nov. 2, and joined Sigel on the Potomac. Its first fight was at Chancellorsville, where it stood fire nobly, losing 157 men in killed and wounded, among whom were ten commissioned officers. It was the only Illinois infantry regiment on the field of Gettysburg, where it fought gallantly, and lost 131 in killed and wounded. After this battle it was sent to join the Western army; was present at the battles of Resaca, Dallas, Lost Mountain, Pine Hill, Peach Tree Creek, and in all the battles before Atlanta. Then it went through with Sherman to the sea, and saw its last fight at Averysboro and Bentonville. It took part in the grand review at Washington, and June 17, 1865, was mustered out at Chicago.

#### THE DRAFT IN CHICAGO.

CHICAGO.  
Did any of the soldiers drafted in Chicago see active service?

INQUIRER.  
*Answer.*—There was but one draft in Chicago, in September, 1864. At that time 487 conscripts were drawn, and of these 428 procured substitutes before the recruits were forwarded by the

provost marshal in Chicago to Springfield, and seven more were relieved by substitute while at Camp Yates. It is impossible to ascertain from the records how much actual service this small remnant witnessed, or, indeed, in what regiment or regiments the men were enrolled. It was the custom, then, to attach the drafted men, in small squads, to regiments already disciplined by service; the moral effect of such association being regarded as especially desirable. The reports of the adjutant general, however, made no distinction between volunteer and drafted recruits, and soldiers of the latter class can only be traced in these reports individually and by name.

#### THE STRASBURG CLOCK.

MARION, IOWA.  
Give a history and description of the famous Strasburg clock.

M. REYNOLDS.  
*Answer.*—As early as the fourteenth century Strasburg had an astronomical clock. It was finished in 1354. The clock was in three parts, the lower part had a universal calendar, the central part an astrolabe, and in the upper division were figures of the three magi and the Virgin. At every hour the magi came forward and bowed to the Virgin; at the same time a chime was played and a mechanical cook crew. This clock of the magi—as it was called—stopped in the early part of the sixteenth century. The Council of the city resolved to have a new clock made and called together all the wise heads of the city to consider it. After much deliberation and fruitless suggestion the designing of the work was given to a practical astronomer, and the execution was committed to a skilled mechanic, Isaac Habrecht, who took four years to complete the work. This is the builder of whom the mythical story is told, that to prevent his building a similar clock for another city, the city fathers of Strasburg had his eyes put out. This clock went till 1789, when it stopped, and all attempts to put its works in order, so that it would go again, failed. After some years, a clock-maker named Schwilgue contracted to remodel the internal machinery of the clock. He began his work in 1838 and finished it in 1842. He retained the case as made by Habrecht, and, in its main features, the new clock is an exact copy of the old. A perpetual calendar, forming a ring around a dial thirty feet in circumference, occupies the central part of the lower division of the clock. At midnight, Dec. 31, the clock regulates itself (for the new year) for 365 or 366 days, as the case may be, even the omission of the bissextile day every 400 years being provided for. The disc within the calendar shows the eclipses of the sun and moon, calculated for all time to come. On one side Apollo points with an arrow to the date and name of the saint for the day. On the opposite side stands Diana, the goddess of night. Above the calendar is a niche in which on each day the mythological deity of the day appears—Apollo on Sunday, Diana on Monday, Mars on Tuesday, Mercury on Wednesday, Jupiter on Thursday, Venus on Friday, and Saturn on Saturday. Above this is a dial marking the mean time in hours and quarters, with two genii, one on

each side, the one striking the first stroke of every quarter, the other turning over the hour-glass at the last stroke of the last quarter. Then follows an orrery, showing the revolution of the seven visible planets round the sun, and above a globe, giving the phases of the moon. Still above this, in a niche, four figures revolve around the skeleton image of Death in the center. Childhood strikes the first quarter, youth the second, manhood the third, and old age the last; death strikes the hour. In a higher niche stands the image of Our Savior. At 12 o'clock the twelve apostles pass before him in line, and he raises his hands to bless them. St. Peter closes the procession, and, as he passes, the mechanical cock on top of the case flaps his wings and crows three times. The left turret of this remarkable clock contains the weights and machinery, and has in its lower part, the portrait of Schwiigle, above this the figure of Copernicus, and yet above the muse Urania. At the foot of the case is a celestial globe, calculated for observation at the latitude of Strasburg. This clock is wound up for eight days.

#### HOW TO POLISH SEA-SHELLS.

What is the process by which sea-shells are polished and cleaned?

MT. Ayr, Iowa.  
SUBSCRIBER.

*Answer.*—The surface of the shell should be first cleansed by rubbing it with a rag dipped in hydrochloric acid until the outer dull covering of the shell is removed. It must then be washed in warm water, dried in hot sawdust, and polished with chamois leather. Those shells which are destitute of a natural polished surface may be either varnished or rubbed with a mixture of tripoli powder and turpentine applied by means of a piece of wash-leather, after which fine tripoli should be used, then a little olive oil rubbed in well, and finally the surface well rubbed with the chamois leather. The hands should be protected from contact with the acid.

#### THIRTIETH ILLINOIS INFANTRY.

Oblige an old soldier with a brief sketch of the Thirtieth Illinois Infantry. Also name its officers.

KINGSTON, Ill.  
A. H. C.

*Answer.*—The Thirtieth Regiment was mustered into service at Camp Butler Aug. 28, 1861. Its regimental officers then were Philip B. Foulke, Colonel; Elias S. Dennis, Lieutenant Colonel; Thomas McClurken, Major; George A. Bacon, Adjutant; William Busbyshell, Quartermaster. Sept. 1, 1861, the regiment was sent to Cairo. It took part in the battle of Belmont, Nov. 7, and in the following spring was at the capture of Forts Henry and Donelson; also at the siege of Corinth and at the capture of Jackson, Tenn. It was at the fight at Medon Station, Miss., Sept. 1. In February it was one of the advance regiments sent down the west bank of the Mississippi to prepare the way for the Vicksburg expedition. It was at the battles of Raymond, Jackson, and Champion Hills, and took an active part in the siege of Vicksburg until June 23, when it was sent to join General Sherman's army at Black River, and aided in the capture of Jackson. In January, 1864, it re-enlisted. In February it

took part in the Meridian campaign, and in March went home on veteran furlough. On its return it participated in General Gresham's Tennessee River expedition, and then it joined General Sherman's army. It took part in the battles before Atlanta, in the movement on Jonesboro, in the pursuit of Hood, and then in the march to the sea. It was at the grand review at Washington, and was finally discharged at Camp Butler, Ill., July 20, 1865.

#### NINETY-SECOND ILLINOIS INFANTRY.

Give a brief sketch of the Ninety-second Illinois Infantry.

MADISON, D. T.  
S. R. PATTERSON.

*Answer.*—The Ninety-second Regiment was organized at Rockford, and mustered into the service Sept. 4, 1862. It left for Kentucky Oct. 11, and was stationed at Mt. Sterling and Danville until Jan. 26, 1863, when it was ordered to join the Army of the Cumberland, and moved southward. General Rosecrans soon after mounted the regiment and attached it to General Thomas' corps. It was subsequently in forty battles and skirmishes, among the most important of which were the battles of Chattanooga, Ringgold, Resaca, and before Atlanta, Bethesda Church, Jonesboro, and the various encounters with the enemy as they "marched through Georgia" with Sherman. The regiment was mustered out at Concord, N. C., and came directly home, being discharged at Chicago, July 10, 1865.

#### THE LONDON CRYSTAL PALACE.

Give a description of the Crystal Palace in London.

FAYETTE, Iowa.  
H.

*Answer.*—The building in which the great world's fair was held in London in 1851, which was entirely of glass and iron, except the floors and joists, was sold in the latter part of that year to a company, who used the materials to construct what is known as the Crystal Palace on its present site at Sydenham, in the southern part of London. The building is 1,600 feet long, 380 feet wide, and nearly 200 feet in height at the center transept. The cost of the building and grounds was nearly £1,000,000. The grounds include an area of 200 acres, handsomely laid out, and containing the finest fountains in the world. The palace contains fine collections of sculptures and paintings, and a museum of architecture, science, and mechanics.

#### NINETY-EIGHTH ILLINOIS INFANTRY.

Give a brief sketch of the Ninety-eighth Illinois Infantry.

HOOPER PRATER, Ill.  
LYMAN MAXWELL.

*Answer.*—The Ninety-eighth Regiment was organized at Centralia, and mustered into service Sept. 3, 1862, leaving camp for Louisville Sept. 8. On its way the train was partly thrown down an embankment at Bridgeport, Ill., and eighty men were killed or wounded. The regiment was mounted in March, 1863, and was engaged in scouting and foraging until called upon to take part in the battle of Chickamauga, where it did good service. It was also at Chattanooga, but did not take part in the fighting. It was engaged in scouting during the winter, was at the fight at Dallas, and before Atlanta, and after the city



was taken took part in Kilpatrick's raid. Nov. 1 the regiment turned its horses over to Kilpatrick's cavalry and returned to Nashville, and was encamped at various points until March, 1865, when it was again mounted, and sent into Alabama. In April it routed Roddy's command at Selma, and took part in the capture of the towns of Montgomery, Ala., Columbus and Macon, Ga. June 27 the regiment was mustered out of the service at Nashville, and July 1 was discharged at Camp Butler.

#### ONE HUNDRED AND FIFTH ILLINOIS INFANTRY.

A sketch of the One Hundred and Fifth Illinois Infantry would be appreciated. NAPEVILLE, ILL.  
E. O. RICKERT.

*Answer*.—This regiment was organized at Dixon, Ill., and mustered into service Sept. 2, 1862. Oct. 31 it left Chicago for Louisville, It was garrisoned at South Tunnell, Ky. till June, 1863, then went to Nashville, where it was stationed until February, 1864. It was then sent on to Wauhatchie Valley, and was assigned to Butterfield's division of the Twentieth Corps. Its first battle was at Resaca, and subsequently it took a prominent part in the important engagements of Allatoona, Kenesaw Mountain, Peach Tree Creek, and Jonesboro. It then went thorough with Sherman to the sea, to Washington for the grand review, and, June 10, 1865, received its final discharge in Chicago.

#### THE PONY EXPRESS.

What was the pony express, and when was it established? OTTUMWA, IOWA.  
R. T. JONES.

*Answer*.—The "pony express" was established in April, 1860. It was part of a mail line between New York and San Francisco by way of St. Joseph, Mo., and Sacramento. Between the two last-named places the distance was traversed by fleet horsemen, each of whom went sixty miles. The weight carried was not to exceed ten pounds, and the charge was \$5 in gold for each quarter of an ounce. The riders were paid \$1,200 a month. The distance between New York and San Francisco by the aid of this express was made in fourteen days. The pony express lasted two years, being given up when the telegraph line across the continent was completed.

#### THE BALKAN TROUBLE OF 1885.

Give a short account of the recent trouble between Bulgaria and Serbia. BLAIR, IND.  
W. O. P.

*Answer*.—Serbia and Bulgaria, being contiguous states, have, ever since their right of self-government was secured, regarded each other with more or less jealousy. Early in September, 1885, an insurrection broke out in Eastern Roumelia, the people rebelling against the Governor who had been appointed over them by the Turkish Government, and demanding a union with Bulgaria. Roumelia had been, previous to the Berlin Congress, a part of Bulgaria, but for the sake of placating Turkey the territory was then divided, and Roumelia placed directly under Turkish rule. Roumelians were never content with the arrangement, and their revolt was by no means unexpected. Prince Alexander, of Bulgaria, promptly accepted the proffered alliance of the neighboring province, appointed a governor for it, formally annexed it to his do-

minions under the name of Southern Bulgaria, and put his army in preparation to defend it. No effort was made by Turkey to regain the province, however, as the Porte was not prepared for war, and a diplomatic arrangement was readily effected. But Serbia angrily resented the enlargement of Bulgaria as destroying the equilibrium of the Balkan states. She demanded additional territory also, especially a part of Western Roumelia, which had once been a part of the Servian Kingdom and was known as Old Servia. The San Stefano treaty made this district a part of Servia, and it was held that if the Berlin treaty was broken, that of San Stefano must stand. To enforce this claim, therefore, King Milan of Servia, Nov. 4, 1885, declared war against Bulgaria, asserting in his proclamation that his object was "either to restore the status quo of the Berlin treaty or to secure the equilibrium of the Balkan States." The Servian army immediately invaded Bulgaria, and in the first encounter was successful. Prince Alexander, however, at the head of his army, defeated the invaders at Slivinitza, Nov. 18, and in four days they were all driven from Bulgarian soil. At this point the powers interfered and ordered an armistice. Fighting was stopped, and in December a treaty of peace was signed and an international commission appointed to arrange the boundary lines, but no partition of territory in Servia's interest was warranted. Soon after this a conference of the European powers at Constantinople formally accepted the union of Roumelia and Bulgaria.

#### THE NORTH VS. THE SOUTH IN THE CIVIL WAR.

CHICAGO.  
The statement is made that the South would never have been conquered in the late war if she had not been so greatly outnumbered. Is this true? Was there any battle in which the Federal forces outnumbered the Confederates two to one? P. B.

*Answer*.—It is true that in most of the great battles of the war, there was not a very great numerical inequality in the opposing armies. Had there been, these engagements could not have been so stubbornly contested; and the war would not have lasted so long nor cost so many lives. At Chancellorsville, the Federals had a force of 130,000, and the Confederates barely 60,000 men, but Hooker's army was so badly managed that less than half of it was engaged at any one time during the battle. In the battles of the Wilderness and Spottsylvania Grant brought on to the field an effective force of 122,000 men, against about 60,000 men in Lee's army: but here Lee had the protection of nearly impregnable intrenchments, so that in two weeks he disabled one-third of the opposing force, at much slighter loss to his own. At Petersburg, Lee had about 50,000 effectives, while Grant's army is shown by official records to have had 125,000 men on duty. But it was not simply the outnumbering on one or two or even a dozen battle-fields that gave the North its great advantage; it was the fact that it could always fill up again its broken ranks, which the South could not do. The Confederate force was steadily increased in numbers until it reached its most effective strength—690,000 men—in January,

1863. The Union army at that date numbered 918,191 men. After that date the Southern force steadily fell off, while that of the North went on increasing. At the time of the surrender the Confederate forces numbered 175,000 men, while the rolls of the Federal armies showed a total of 1,000,516 soldiers. The greater strength and far more abundant resources of the North must not pass unnoted in any truthful history of this great struggle, as they show plainly the wickedness of those who precipitated the conflict between the sections. It is not always remembered that the entire population of the seceding States was only 7,993,531, of which but 4,745,307 were whites. The other States and territories of the Union had a total population of 24,450,890.

#### MAXIM SELF-ACTING GUN.

CATUGA, Miss.  
Describe the self-acting machine gun.  
C. A. FINLEY.

*Answer.*—This is known as the Maxim gun, the invention of Hiram S. Maxim, of England. In the working of this gun every round after the first is fired by the recoil of the previous explosion. The cartridges are carried in a belt composed of any number of lengths. One end of this cartridge-belt is placed in the gun mechanism on one side; the cartridges are picked out of it by the automatic action of the gun, and the belt and cartridge shells are ejected after firing. Every recoil of the gun brings the next cartridge into position, forces it into the barrel, cocks the hammer, pulls the trigger, extracts the empty cartridge-case and ejects it from the gun, all these processes going on with such wonderful rapidity that 600 rounds are fired in a minute. At the moment of firing the recoil drives the barrel back about three-quarters of an inch, and it is this recoil which directs the mechanism of the gun, and makes its discharges continuous. The gun can be turned in any direction by means of a crank, and the rate of discharge is regulated by a controlling chamber, ingeniously contrived so that the gun may be fired rapidly or slowly, as desired.

#### U. S. TREASURER—REDEMPTION AGENCIES OF NATIONAL BANKS.

EAST WOLF, Kan.  
1. By whom is the United States Treasurer appointed, and what are his duties? 2. Tell something of the redemption agencies of National banks.  
A. PHARO.

*Answer.*—1. The United States Treasurer is appointed by the President, by and with the advice and consent of the Senate. He receives and keeps the moneys of the United States, and disburses them only upon warrants drawn by the Secretary of the Treasury and duly recorded. He is also charged with the custody of all public moneys in the sub-treasuries at New York and eight other cities, acts as agent for redemption of National bank notes, is trustee of the bonds of the United States, and custodian of Indian trust funds, besides having entire charge of the payment of interest on the public debt. The immense vaults and strong boxes of the Treasury are all in the custody of this officer, and he has nearly three hundred clerks and other employees in his department. The Treasurer receives a salary of \$6,500 a year,

and must give bonds in the sum of \$100,000 before entering upon the duties of his office. 2. Under the laws for the establishment and management of National banks the banking associations in sixteen of the principal cities of the United States are each empowered to select, subject to the approval of the Comptroller of the Currency, an association in the city of New York, at which it will redeem its circulating notes at par. Other banking associations may each select, under like conditions, an association in one of these sixteen cities, where its circulating notes will be redeemed at par. The Comptroller of the Currency must give public notice of these agencies that have been selected for the redemption of notes, and of any changes that may be made in them. If any banking association refuses to make the choice of a redemption agency the Comptroller is empowered to appoint a receiver for such bank and to wind up its affairs for this violation of law. In case of the failure of a National bank to redeem its notes its bonds are declared forfeited, and the holders of the notes are notified that these will be redeemed at the Treasury of the United States.

#### ONE HUNDRED AND FOURTH ILLINOIS INFANTRY.

ROCK FALLS, Ill.  
Give an account of the One Hundred and Fourth Illinois Infantry.  
C. K. BROWN.

*Answer.*—This regiment was raised almost wholly in LaSalle County. It was organized at Ottawa and mustered in Aug. 23, 1862. Sept. 6 it started for Kentucky, and was first garrisoned at Frankfort, then at Tompkinsville and Hartsville. At the last named place it was attacked Dec. 7 by a force under General Morgan, and forced to surrender, after a sharp fight, Morgan marched the men to Murfreesboro, and there paroled them, after which they were sent to Chicago, and there employed in guarding prisoners until they were exchanged in April, 1863. The regiment was then immediately sent back to the seat of war. It took part in the Tullahoma campaign, and in the battle of Chickamauga, losing in the latter engagement sixty-three men in killed and wounded. It was in the battles of Mission Ridge and Lookout Mountain, and in all the engagements of the Atlanta campaign in the summer and fall of 1864. Oct. 3, the regiment marched north in pursuit of Hood, was soon recalled and participated in the march to the sea, and in the last two fights with Johnston's army—Bentonville and Averysboro. It took part in the grand review at Washington, and was mustered out in Chicago June 10, 1865.

#### NAPOLEON III.

CHICAGO.  
Give a sketch of the life of Louis Napoleon. Was he ever in New York?  
JOHN E. MARTIN.

*Answer.*—Charles Louis Napoleon Bonaparte—known as Napoleon III., Emperor of the French—was a son of Louis Bonaparte, King of Holland, and Hortense de Beauharnais, daughter of the Empress Josephine. He was born at the Palace of the Tuilleries April 20, 1808. His parents lived apart from the time of his birth, the children with their mother. After the death of Napoleon I Queen Hortense went with her children to Aarau, Switzerland. In 1831 Louis and



his elder brother went to Italy and enlisted in the revolutionary army there, but that army was, a few months later, defeated and dispersed. On the death of his elder brother, in the same year, and that of the Duc de Reichstadt (Napoleon's son), Charles Louis became the heir of the destiny of the Bonaparte family. His subsequent career presents remarkable vicissitudes of fortune. A conspiracy of some army officers at Strasburg proclaimed him Emperor Oct. 30, 1836, but he retained even this empty honor only a few hours. He was arrested and taken to Paris, but the government thought it absurd to punish so feeble a conspirator, and banished him to the United States. He embarked for Rio Janeiro, and went thence to New York and spent some months there in comparative obscurity and idleness. In 1837, having heard that his mother was dying, he returned to Switzerland, remained with Queen Hortense till her death a short time after, then took refuge in England, where he lived two years. In August, 1840, having formed another conspiracy, he landed at Boulogne with fifty followers, and was promptly arrested by the soldiers that he had expected to enlist in his cause. This time he was tried and sentenced to imprisonment for life, and was confined in the citadel at Ham. From this he escaped in May, 1846, and disguised as a laborer he made his way safely to England, where he lived quietly for two years. During the years of Napoleon's retirement and imprisonment he devoted himself to political study and the composition of political treatises. The revolution of 1848 in Paris at once brought his name to the foreground. He returned to France and was elected to the National Assembly, and at once became a prominent candidate for the office of President of France. Dec. 10, 1848, he was elected to that office by a majority of over four million votes. His relations with the legislative assembly, however, were far from harmonious, and he closed his long struggle with that body by the celebrated "coup d'etat" of Dec. 2, 1851. On that day he forcibly dissolved the Assembly, and arrested and imprisoned those members who had led the opposition, and made direct appeal to the people for justification for his acts. This he received in the popular election soon after, which chose him for President for a term of ten years. A new constitution was adopted which gave him great power, and when in November, 1852, the question whether he should take the title of emperor was submitted to the people, a heavy affirmative vote gave him that privilege. He then assumed the title of Napoleon III., and in January, 1853, married a Spanish lady of unusual personal attractions, Eugenie Marie de Guzman, Countess of Teba. The great aim of Napoleon III. appears to have been to reconcile the French people to the loss of liberty by promoting their material prosperity and gratifying their passion for military glory. His connection with Great Britain in the Crimean war secured for him the friendship of that government, and the successes of the allies reflected a glory in popular fancy upon his administration.

The Italian war, and especially the brilliant victory over the Austrians at Solferino, where Napoleon commanded in person, made him very popular. His first grave mistake was his attempt to interfere in Mexican affairs during the time of the civil war in the United States. Though the French were for a time successful, though they took possession of the City of Mexico and installed a scion of the Austrian royal house on the throne of the Montezumas, it was only to prepare for themselves a most humiliating defeat. Before the close of 1866, Napoleon's unhappy tool, Maximilian, had been shot, and the last French soldier had withdrawn from Mexican soil. From that time Napoleon's glory waned. He might have prevented the war between Austria and Prussia, but he made no effort to do so. The result of the war, however, was to greatly strengthen the power of France's most dangerous enemy, Prussia, and in their diplomatic encounters Napoleon felt that Prince Bismarck was more than his match. Determined to check the increasing power of Prussia, Napoleon precipitated the war which resulted in his downfall. The election of 1869 had shown so strong a popular feeling against imperial despotism, that Napoleon, alarmed, decided to make great concessions to the opposition in the Legislature. He chose as his prime minister, Emile Ollivier, with the direct understanding that governmental reforms were to be inaugurated by the new cabinet. Had he not decided to follow the ignis fatuus of military glory, Napoleon might have retrieved his lost favor and controlled the government of France for years. But in July, 1870, he declared war against Prussia, and appointing the Empress regent, he took command of the army in person. After having betrayed such lamentable military incapacity that his hold on the respect and affection of the soldiers was wholly gone, the Emperor surrendered himself with a force of 100,000 men, as prisoners of war, at Sedan. He was confined in the palace of Wilhelmshöhe by the Germans, and the war went on, but with continued disaster to the French. After Germany had conquered and peace had been declared, Napoleon, though he had been formally dethroned by the Assembly, issued several proclamations, appealing to the loyalty of the French people. As these met with no response, the ex-Emperor took refuge in England, where the princely residence at Chiselmurst was placed at his disposal by the Queen of England, and the ex-Empress and the young Prince joined him. His life there was quiet, and he spent much of his time in writing pamphlets defending his course. But he felt his overthrow much, and suffered greatly from ill-health and died Jan. 9, 1873.

#### SCOTLAND AND ENGLAND.

PESCHIVIN, DL.  
Did Scotland become united to England by conquest? When and how was the union accomplished?  
R. MONROFF.

Answer.—Scotland was an independent kingdom from the earliest times. The first attempt to assert the supremacy of England was made by William the Conqueror, who, in return for predatory raids by the Scots over the border, in-

vaded Scotland in 1072, and made King Malcolm acknowledge him as over-lord. This acknowledgment was the cause of much dissension, but the national interests of the two kingdoms were believed to be indissolubly united by the marriage of the daughter of Malcolm to Henry I., King of England. In 1286 the direct royal line in Scotland became extinct, and there were several claimants to the throne. These made King Edward I. of England the arbiter of their claims, and he decided in favor of John Balliol. In return for his favor Edward compelled King John to swear allegiance to him as his over-lord. John being forced by his subjects to disavow this allegiance, Edward resolved upon the conquest of Scotland. He invaded the country with a great army, deposed the king, and formally took possession of the kingdom. Then followed the twenty years' struggle for independence on the part of the Scots, headed first by William Wallace and after his death by Robert Bruce. Edward died in 1307, on the eve of his third invasion of Scotland, and his successor, Edward II., inherited neither his military ability nor his determined energy. The struggle ended with the complete overthrow of the English army at the battle of Bannockburn in 1314. England acknowledged the full independence of Scotland by treaty in 1328, and from that time the aggressions of the stronger kingdom were only those provoked by the Scots themselves. To gratify her antagonism to England Scotland formed an alliance with France, and, whenever war was declared between these hereditary foes, hastened to invade England in behalf of her ally. The Stuarts came to the Scottish throne in 1376, in the person of Robert, a son of Marjorie, the daughter of the famous Robert Bruce. The two royal houses were united by the marriage of James IV. of Scotland to Margaret Tudor, daughter of Henry VII. of England. The great-grandson of this union, James VI. of Scotland, succeeded to the throne of England also as James I., in 1603, and the two kingdoms were peacefully united. The Scots continued to have a separate Parliament until 1707, when the legislative union of the two kingdoms was accomplished.

#### NINETY-FIFTH ILLINOIS INFANTRY.

THE IOWA. Would like a brief account of the Ninety-fifth Illinois Infantry.  
ROBERT J. DICKSON.

*Answer.*—The Ninety-fifth Regiment was composed of seven companies from Henry County and three from Boone. It was mustered into service Sept. 4, 1862, and Nov. 4 was ordered to join General Grant's command at Grand Junction, Miss., and took part in the campaign in Northern Mississippi during the fall and winter. In the spring it went down the river with the Vicksburg expedition, and was in the battles of Black River Bridge, Champion Hills, Raymond, and Jackson. It performed gallant duty during the siege of Vicksburg, and in the assaults of May 19 and 22 lost 159 in killed and wounded. The regiment remained at Vicksburg until July 12, then was sent to Natchez; in September returned to Vicksburg and remained there till March, 1864, when it accompanied Gen. A. J. Smith

on his Red River expedition, and after its return from this it proceeded with the Sturgis expedition, in which, at the battle of Guntown, it lost heavily. In August it went with General Mower's White River expedition, and then with General Smith pursued General Price from Arkansas into Missouri, its companies rendezvousing at Benton Barracks in November. The regiment was then sent to reinforce General Thomas in his operations against General Hood. It took part in the battles around Nashville, and the pursuit of Hood's army, then went to Eastport, Miss., where it was stationed until February, when it went down to New Orleans, and thence to take part in the Mobile campaign. After the capture of Mobile, the regiment went to Montgomery, Ala., thence to Opelika, and July 18 started home to muster out. Aug. 16 the men were paid off and discharged at Camp Butler. It is worth mention that a detachment of over 100 men and officers from this regiment, under Major C. B. Loop, was engaged in Sherman's Georgia campaign, and took part in all the battles there.

#### THE INDIAN OUTBREAK OF 1862.

MANHATTAN, Kan. Give as full a sketch as possible of the Indian outbreak in Minnesota in 1862, its cause, and the loss of life and property occasioned.  
LESLIE H. SMITH.

*Answer.*—During the spring and early summer of 1862 there were frequent reports of dissatisfaction and threatened trouble among the Indian tribes of Minnesota and Dakota. The causes of this discontent were various. There was complaint of non-payment of annuities, and the attempt to pay money due them in legal-tender notes instead of gold caused great indignation. It was asserted that emissaries from the Confederate government caused the trouble, but this was not proved. It is, however, probable that the Indians chose this time to avenge their real and imagined wrongs because they thought the white man's government, when occupied with a war, would be less able to check their depredations. The first attack was made by the Sioux under Little Crow, upon Yellow Medicine Agency Aug. 18, 1862, where all the whites, old and young, were murdered. New Ulm was attacked Aug. 23, and many whites were killed, but the citizens hastily banded for defense, forced the Indians off, and on the following day a force of soldiers arrived to their relief. Ft. Ridgely was besieged for nine days, and its small garrison repelled three desperate attacks before it was relieved, Aug. 26, by the military. The Indians now went northward toward Fort Abercrombie, massacring and plundering as they went. Meanwhile Governor Ramsey had called out all the militia of the State, an extra session of the Legislature had been convened, and appeal had been made to the General Government for assistance. General Pope was dispatched to command the department, and United States soldiers were sent from various points. Two assaults were made by the Indians on Fort Abercrombie in September, both being repulsed with heavy loss. They then retreated westward, but they were followed by the troops and forced to make a stand at Wood Lake, where they were utterly defeated. About 500 Indians were taken prisoners and tried by court



martial, of whom 300 were sentenced to be hung. The President, however, ordered that only thirty-eight of these should be executed, the remainder being put in confinement for a time and visited with lighter punishments. As the whole number of warriors in the Minnesota Sioux did not exceed 1,000, and a number had taken no part in the outbreak, there is little doubt that the greater part of the insurgents were either killed or captured. The prompt action of the government in punishing those taken had the effect of preventing any further trouble. The loss of life on the part of the whites was variously estimated, but probably not less than 500 were killed by the savages or perished from sickness and exposure caused by their hasty flight from their homes. For a number of months several thousand people were dependent upon charity for food and shelter. The loss of property through the outbreak was estimated at from \$2,500,000 to \$3,000,000.

#### PRESIDENTS OF THE CONTINENTAL CONGRESS.

Give a list of the Presidents of the Continental Congress from 1774 to 1789.

*Answer.*—The following table gives the names of the several Presidents of the Continental Congress, their States, and the dates of their election:

Name.	State.	Date of election
Peyton Randolph.....	Virginia.....	Sept. 5, 1774.
Henry Middleton.....	South Carolina.	Oct. 2, 1774.
Peyton Randolph.....	Virginia.....	May 10, 1775.
John Hancock.....	Massachusetts.	May 24, 1775.
Henry Laurens.....	South Carolina.	Nov. 1, 1777.
John Jay.....	New York.....	Dec. 10, 1777.
Samuel Huntington.....	Connecticut.....	Sept. 26, 1779.
Thomas McKean.....	Delaware.....	July 10, 1781.
John Hanson.....	Maryland.....	Nov. 5, 1781.
Elias Boudinot.....	New Jersey.....	Nov. 4, 1782.
Thomas Mifflin.....	Pennsylvania.....	Nov. 3, 1783.
Richard Henry Lee.....	Virginia.....	Nov. 30, 1784.
Nathan Gorham.....	Massachusetts.	June 6, 1786.
Arthur St. Clair.....	Pennsylvania.....	Feb. 2, 1787.
Cyrus Griffin.....	Virginia.....	Jan. 22, 1788.

#### THE CROWN JEWELS OF ENGLAND.

Give the names and description of the crown jewels of England.

*Answer.*—The jewel-house in the Tower of London contains the crown jewels, inclosed in an immense glass case, where they are on exhibition to visitors. They do not include many gems of ancient date, as the royal regalia was sold during the time of the Commonwealth. On the accession of Charles II. a new crown was made, but only a few of the old gems could be repurchased for it. This crown forms a part of the present collection of crown jewels, also the crown made for the queen of James II., and her ivory scepter, the crown made for George IV., Prince of Wales, and that of the late Prince Consort; also the crown made for the coronation of Queen Victoria, which contains gems valued at \$600,000. The most remarkable stone in the diamond collection is the Koh-i-noor, or mountain of light, a stone which once belonged to Runjeet Singh, the ruler of Lahore, India. It weighed before cutting 186 karats. Another remarkable stone is a ruby diamond that was worn by the Black Prince. Besides these are numbers of other precious stones, also articles of gold and silver studded with gems, the royal spurs, swords, bracelets, etc., and the basin in which all

the royal infants are christened, and the spoons and cups with which they are fed. These are all included in what are understood as the "crown jewels."

#### BARBED WIRE FENCING.

When was wire first used for fences? When was barbed wire invented? Give a description of how barbed wire is made.

*Answer.*—Wire fences—without barbs—have been in limited use for many years. As early as 1816 the wire-works of White & Hazard, near Philadelphia, had manufactured a strong wire for fencing, and to show its fitness for the purpose they constructed a fence at the Schuylkill Falls, which was at one time quite an object of interest. This wire was adopted to a certain extent, in the Eastern States, principally for ornamental fencing. It was not until the invention of barbed wire that the usefulness of this substance for country fencing was appreciated. The first patent for barbed wire was issued in 1875. It is made by machinery. The wire is brought into the machine room in coils, and wound on huge bobbins or spools. Each machine has four spools attached, and when all is ready the operator threads the machine, splices the wire, and pulls a lever. The barbs are fed automatically, and are affixed by the movement of a pedal which caused them to be twisted in with a clamp. Precisely the same machinery is used for the single or double pointed barb. The galvanized coating for the wire may be put on before or after the attaching of the barbs.

#### THE ENGLISH COURTS.

How many courts are there now in England, and what are the powers and jurisdiction of each?

*Answer.*—The inferior courts of England may be divided into civil and criminal courts. Of the latter the lowest is the court of the justice of the peace or magistrate, in which minor offenses are tried. Besides punishing these by summary conviction, the magistrates may commit the prisoners for further trial at the assizes. Secondly come the courts of Quarter Sessions. These are courts which meet four times in the year to try the less heinous criminal offenses. Their jurisdiction does not include the crimes of treason, murder, forgery, and bigamy. These courts in the rural districts are presided over by justices of the peace, in boroughs by the recorder. The graver offenses are tried at the assize courts, which sit generally in each county twice a year, and are presided over by judges of the superior courts. London, which occupies an exceptional position in all matters of judicature, has a high criminal court of its own, known as the Central Criminal Court, established in the reign of William IV. Its judges are usually chosen from the judges of the Court of Justice. The Queen's Bench Division of the Court of Justice has a general superintendence over all other courts of criminal jurisdiction, and criminal cases may be transferred to the Queen's Bench by the writ of certiorari. A court known as the Court for Crown Cases Reserved has been established during the present

reign, to which questions of law concerning a trial of a prisoner may be remitted. As to the civil courts, cases of slight importance are brought before magistrates. Otherwise the civil business of the country is now divided between the County Courts, which take small cases, and the High Court of Justice, which takes all others. Until recently there were three courts of common law in England—the Court of Queen's Bench, the Court of Common Pleas, and the Court of Exchequer. These, together with the old Court of Chancery and other departments, are now all included in the jurisdiction of the High Court of Justice, which has three important divisions—the chancery division, the Queen's bench division, and the probate, divorce, and admiralty division. These, with the Court of Appeal, constitute what is known as the Supreme Court of Judicature. The High Court of Justice is a court of appeal for inferior courts, and any case may be taken from it to the Court of Appeals and appealed from that also to the House of Lords, which, presided over by the Lord High Chancellor, is the highest appellate tribunal in the kingdom. Besides these are the ecclesiastical courts, which try all special cases in which the church or its discipline is concerned, but whose jurisdiction is in all instances controlled by the Court of Justice. Also the police courts of the large cities, the Lord Mayor's Court, and city courts in London and elsewhere.

#### ADOBE HOUSES.

BEAVERTON, Kan.  
Tell us how adobe houses are made, the kind of material used and the manner of working it.

D. D. ANGELL.

*Answer.*—Adobe houses are made of unburnt brick. They are in common use in Texas, Mexico, Central and South America. The bricks are made of loamy earth, containing about two-thirds fine sand and one-third clayey dust. This mess is mixed with water and then pressed into molds of the required size. Taken from the molds the adobes are placed on edge on the ground and left to harden in the sun. In a few days they are hard, compact bricks, without a crack. They are laid with mud mortar, and at the completion of every two feet of the structure, an interval of one week is allowed for drying, and a similar space of time between the completion of the walls and the putting on of the roof. The houses are usually one story high, and the inside is plastered before the roof is put on. The duration of these houses is much greater than would be supposed, as there are a number now in existence which have stood for more than a century.

#### THE ARUNDELIAN MARBLES.

YORK, Neb.  
Tell something about the Arundelian marbles.  
G. E. FAIR.

*Answer.*—This name is applied to a collection of ancient sculptures, consisting of 37 statues, 125 busts, and 250 inscribed stones. They were found on the island of Paros, about 1610. They were collected by Mr. W. Pefty, purchased by Lord Arundel, and given by his grandson, Henry Howard—afterward Duke of Norfolk—to the University of Oxford in 1667. These sculptures

contain inscriptions in the Greek tongue. In their perfect state, they evidently contained a chronological table of the principal events of Grecian history from the time of Cæcrops, 1582 B. C., to the archonship of Diogenes, 264 B. C. The chronicle of the last 90 years of this period, however, is lost; and the portion still extant is much corroded and defaced. Several editions and translations of these inscriptions have been made.

#### SIR WALTER SCOTT.

ROCK ISLAND, Ill.  
Give a brief biography of Sir Walter Scott.  
J. A. EDOQUIST.

*Answer.*—Walter Scott was born in Edinburgh, Aug. 15, 1771. As a child he was physically delicate and spent a number of years on the farm of his grandfather, where his acquaintance with the peasantry gave him a familiarity with popular traditions that largely influenced the sphere of his literary activity in mature life. He attended the high school in Edinburgh, and later went to the university, but he was averse to hard study, and won no honors. He was always, however, an insatiable reader, and thus amassed great stores of valuable information. He then read law, and was called to the bar in 1792. He had fair success in his profession, and in 1797 was married. He soon began to occupy himself with literature occasionally, his first publications being translations of German poems. In 1802 he published his first two volumes of "Border Minstrelsy," and in the following year published a third volume. These were received with much favor, and the publication of "The Lay of the Last Minstrel" in 1804 made Scott the most popular writer of his time. During the next ten years he published all of his other long poems, "Marmion" (1808), "The Lady of the Lake" (1810), "The Vision of Don Roderick" (1811), "Rokeby" (1813), and several others. In 1814 he made his first venture in prose fiction, publishing "Waverley" at first anonymously. "Guy Mannering," "The Antiquary," "The Black Dwarf," "Old Mortality," and others rapidly followed, and the "Great Unknown," as the author was called—though every one in the literary world knew it could be no other than Walter Scott—became the idol of the hour. From this time onward for several years Scott stood on a pinnacle of fame and social prosperity such as few, if any, authors have ever reached. He resided chiefly at Abbotsford, his beautiful residence in the border country that he loved, and here he dispensed princely hospitality to distinguished guests from all countries. In 1820 a baronetcy was bestowed upon him by royal favor. About this time he unfortunately was led by his friendship for James Ballantyne, the publisher who had issued most of his works, to invest his profits largely in the printing and publishing business. Unacquainted with commercial details, he trusted their management entirely to the other partners, who seem to have been extremely reckless in incurring liabilities. The hard times of 1825 hastened the inevitable catastrophe, and in January, 1826, the publishing house failed, with liabilities of upward of £150,000. Scott, as principal



stockholder, was mainly liable. A compromise with the creditors might have been made, but Scott would not consent to this—all he asked was time, and he would pay all his debts. His heroic purpose was at last crowned with success, but it cost him his life. He gave up all his property and devoted himself to his literary labors with intensest zeal. Neither attacks of severe illness, nor the overwhelming grief caused by the death of his wife, which occurred in May, 1826, could turn him from his purpose. He not only wrote a number of novels, but completed a "History of Napoleon Bonaparte," in two volumes, a work which yielded to the author's creditors the enormous sum of £18,000. In consequence of his unremitting work he had a paralytic stroke in November, 1830. In a few weeks, however, he resumed his labors. In April, 1831, he had a still more severe attack. As his health continued to fail he went to Italy with friends to pass the winter. In the following summer he returned in even a more feeble state, and was taken to Abbotsford, where he died Dec. 21, 1832. During the early part of this year the last of the enormous debt of £120,000, which he had promised to the creditors of his firm, was paid from the proceeds of his work.

#### THE MORMONS UNDER JOSEPH SMITH.

Give an account of the Mormon Church under Joe Smith's administration. Pembroke, Dak.  
S. G. M.

*Answer.*—The pretended "Book of Mormon," which was in reality a religious romance written by a Presbyterian minister, and stolen by Sidney Rigdon, was printed by Smith and Rigdon in 1830. So thoroughly had Smith hoaxed a number of his acquaintances with the story of the "golden plates," that he was able to organize a church at Manchester, N. Y., in April, 1830, and a conference of the members, now increased to thirty, was held at Fayette, N. Y. in June. In the following January, Smith, claiming to be guided by revelation, led the whole body of believers to Kirtland, Ohio. Here many converts were added. Smith and Rigdon started a bank, and engaged in other business transactions. These were not altogether honorable, and perhaps brought about the tarring and feathering of the "prophets," in March, 1832, but it is also asserted that this punishment was inflicted because Rigdon had begun to preach his doctrine of "spiritual marriage." If this was the case the rough manner in which this "revelation" was handled, effectually silenced the prophets concerning it for several years. In 1833 a government for the church was organized, consisting of three presidents, Smith, Rigdon, and Frederic Williams. In 1835 twelve apostles were ordained and sent out to teach the new faith. One of these was Brigham Young, who went to the Eastern States, and was very successful in making proselytes. In 1836, a costly temple, which had been three years in building, was consecrated at Kirtland, and the following year two missionaries were sent to England. In 1838, Smith's Bank failed, and he and Rigdon were obliged to flee in

the night from their creditors. In the meantime a number of Mormons had gone to Missouri, and, after conflicts with the people at various points, had finally settled at Far West, Caldwell County, where Smith and Rigdon joined them. The colony soon became a large one, but was in constant difficulty with the Missourians, and soon had serious internal troubles to contend with. Several of the leading members apostatized and brought grave accusations of crimes and frauds against Smith. Such was his influence over the body of his people, however, that he was not punished in any way. Toward the close of 1838 the conflict between the Mormons and their neighbors assumed the character of a civil war. The Mormons had armed themselves and fortified their towns, and the militia of the State had been called out against them. Smith and Rigdon were arrested on the charge of treason, murder, and felony. The Mormons capitulated and promised to leave the State, and several thousands of them crossed the Mississippi into Illinois. Smith escaped from jail and joined them, and Rigdon was released. The Mormons were kindly received in Illinois, where they bought land and founded the city of Nauvoo. The Legislature of Illinois granted to this city extraordinary privileges, enabling the Mormon leaders to exercise almost unlimited civil power, and also to organize a military body known as the Nauvoo Legion. This comprised nearly all of the Mormons capable of military service, and was equipped and drilled for a possible conflict with State authorities. The revelation authorizing polygamy was made public in 1843. A full account of the excitement this occasioned, which was known as the Nauvoo war, and the death of Joseph Smith, will be found in Our Curiosity Shop book for 1881.

#### THE MANIOO ROOT.

Cortland, Neb.  
MAUDIE AND MAX.  
Describe tapioca, and tell where and how it grows.

*Answer.*—The substance called tapioca is made from the root of the manioc, a large shrubby plant, a native of South America, but now also extensively cultivated in Africa and other tropical countries. Manioc, or mandiocca, is the Brazilian name of this plant, in the West Indies it is called cassava, and in Peru its name is yucca. The plant grows in a bushy form from six to eight feet high, and sometimes higher. The stems are large and pithy, the branches crooked, the leaves growing in a cluster at the ends of the branches. The roots are very large, turnip-like, sometimes weighing thirty pounds, from three to eight growing in a cluster, usually from a foot to two feet long. They contain a very poisonous, milky juice, but as the poisonous quality results from the presence of hydrocyanic acid, this can be entirely removed by boiling. When the poison is thus driven out, the juice is made into a sauce, quite peppery in flavor, which is very wholesome as a condiment and much liked by the South Americans. It is also sweetened with molasses, fermented, and converted into an intoxicating drink. After

the juice is pressed out, the root is grated, dried on hot metal plates, and then powdered, this substance becoming a favorite kind of farina. The starch of the root is obtained by allowing the juice to stand for some time after boiling, when the starch settles to the bottom. This is washed and then dried on hot plates. During the process of heating, the starch is stirred with an iron rod, the grains burst, some of the starch is converted into dextrine, and the whole agglomerates into small irregular masses. This is what is known as tapioca.

#### THE IRISH PARLIAMENT.

How long did the old Irish Parliament exist? Did Catholics have representation therein? How and when was it abolished?

JOHNSON, Neb.

L. W. EATON.

*Answer.*—The Irish Parliament had its origin in the assembly instituted by the Norman barons who settled in Ireland in the thirteenth and fourteenth centuries. These settlers founded towns, generally on or near the coast, which they fortified and wherein they lived, always ready to attack the hostile natives that surrounded them. The Irish people were at that time rude and lawless, and acknowledged no rule but that of the strongest chief. The Normans, for mutual protection, organized a parliament, which consisted of an upper house, whose members were the lay peers, abbots, priors, and bishops, and a lower house made up of knights of the shires and burgoesses. This parliament met at irregular intervals at different places, at the summons of the King's lieutenant, or his deputy, for the Normans, he it remembered, were subjects of the King of England. In time the hostility between the Normans and the native Irish lessened. The two nations intermarried largely in spite of the edict of the English sovereign against it, and, also in defiance of English law, the Normans adopted the costume and language of the native Irish. This union strengthening the Irish Nation, Henry VII. thought it time to make them feel the superior power of England. In 1494 Sir Edward Poynings was sent over to Ireland as Lord Deputy, with an army to enforce his plans. He summoned a parliament at Drogheda, at which the famous measure known as "Poynings' Act" was passed. This act provided that all English laws should operate in Ireland, and that the consent of the Privy Council of England was necessary to validate all acts of the Irish Parliament. In the reign of Henry VIII. a parliament was called at Dublin, and that was the first assembly in which representatives of the Irish were present. The purpose of this gathering was to enforce in Ireland Henry's confiscation of the lands and property of the Catholic Church. This parliament conferred on King Henry and his successors the title of King, instead of Lord Paramount, of Ireland, as hitherto, and passed laws compelling the Irish chiefs to hold their lands as vassals of the King of England, to come to the courts of the King for justice, to attend parliament when summoned, to send their sons to be educated in England and to renounce the authority of the Pope. Under Edward VI. was begun the confiscation of Irish lands, which was carried

on to so great an extent in succeeding reigns. It would be hard to conceive of a country worse governed than Ireland was under Elizabeth and the Stuarts, and it is little wonder that the pretense of a parliament, which usually met but briefly at intervals of several years for the purpose of passing "money bills"—and in times of war and revolution did not meet at all—could not greatly improve matters. Cromwell conquered Ireland with the sword, and ruled it with a severity that only William of Orange could surpass. This king, though he at first repealed "Poynings' Act," in the hope of inducing Ireland to withhold assistance from the dethroned King James; and, to procure the surrender of the Irish army, signed the treaty of Limerick, which guaranteed entire religious freedom to the Catholics; subsequently, in the odious "penal code," outdid all his predecessors. This code not only forbade Catholics to sit in the Irish Parliament, or vote for it, but deprived them of all civil rights, all rights of property, and forbade them to educate or even to control their children. They were excluded from every profession, and every public office, even the most menial. To still further complete the destruction of Ireland, another act of Parliament forbade all direct trade from Ireland with the British colonies. In 1703 an attempt was made to decree the abolition of the Irish Parliament, but it failed. In 1719, under George I., the British Parliament passed an act declaring its power to make laws to bind the people of Ireland. In 1780, Grattan, at the head of the "volunteer corps," secured the repeal of this act, and of the most of the harsh provisions against the Catholics in the "penal code." England was in no condition to cope with the rebellion in Ireland which she feared at that time, and therefore conceded these demands. But when the revolution of 1798 broke out, all that Grattan had gained was lost. The rebellion was put down by force of arms, and all the leaders of the insurgents were put to death. And now it was determined to put down the Irish Parliament, and to accomplish this the votes of sufficient members of that Parliament to carry the "bill of union," were purchased, by order of the English Ministry. This is no mere political charge, but a known historical fact, attested by the letters of Lord Cornwallis, who, though thoroughly ashamed of his commission, carried it out at the behest of his government. Money, place, office, and in the most difficult cases, peerages, were given for the needed votes. Ireland yielded her Parliament, and received the privilege of representation in the British Parliament, in 1800, but she did not give up control of her finances until 1817.

#### SIXTEENTH WISCONSIN INFANTRY.

BERLIN, Minn.

Would like a brief history of the Sixteenth Wisconsin Infantry.

A. A. FINCK.

*Answer.*—The Sixteenth Wisconsin Infantry was recruited in the closing months of 1861, and mustered into the service at Madison Jan. 31, 1862, leaving camp for St. Louis March 13 following. Thence it was sent to join Grant's com-



mand at Pittsburg Landing, and was in General Prentiss' division at the battle of Shiloh, part of the regiment being the first infantry engaged in the battle. In this engagement it lost 245 men in killed and wounded. It took part in the siege of Corinth, and was stationed in the fortifications there until September, when it marched with the army against Price, and was at the battles of Iuka and Corinth. Feb. 1, 1863, it was transferred to Lake Providence, La., remaining there until August, when it was sent to Vicksburg. It passed the winter in garrison duty. In March three-fourths of the regiment enlisted. After their furlough the men were sent to join Sherman's army, and took part in the battles of Kenesaw, Bald Mountain, Atlanta, and Jonesboro. They went with Sherman to the sea, and shared the experiences and fighting of that march. The regiment then went to Washington for the grand review, and was then sent to Louisville, where it was mustered out July 16, 1865.

## LARGEST ISLANDS IN THE WORLD.

Give the area and population of the largest islands of the globe.

OREGON, Ill.

W. C. HOBSON.

VIRGO, Wis.

R. N. S.

How many islands on the globe have an area of 20,000 square miles or over?

*Answer.*—Leaving out of the estimate the enormous island of Australia, which is really a continent, the following table gives the other important islands of the two hemispheres:

	Area. Square miles.	Population.
New Guinea.....	325,000	690,000
Borneo.....	290,000	1,846,000
Madagascar.....	228,570	3,000,000
Sumatra.....	168,000	5,000,000
Great Britain.....	83,826	29,710,000
Celebes.....	66,750	4,000,000
Java.....	50,260	17,500,000
Saghalien (used as a penal settlement only).....	47,500	13,500
New Zealand—		
North Island.....	44,750	570,000
South Island.....	55,224	
Cuba.....	45,700	2,000,000
Nippon (Japan).....	42,000	27,250,000
Newfoundland.....	40,200	180,000
Luzon (Philippines).....	40,000	4,500,000
Iceland.....	40,000	72,438
Jesso.....	35,000	163,355
Ireland.....	31,874	5,174,836
Hayti or San Domingo.....	20,830	893,200
Tasmania.....	26,215	130,541
Ceylon.....	25,635	3,000,000
Terra del Fuego.....	21,260	2,000

Perhaps Nova Zembla and Spitzbergen, and other Arctic islands, would properly come in this list; but they have not been sufficiently explored to have their areas even approximated, and they have no permanent inhabitants.

## THE EIGHTY-SIXTH NEW YORK INFANTRY.

Give a brief history of the Eighty-sixth New York Volunteer Infantry.

KILBOURNE CITY, Mo.

JAMES W. CHAFFEE.

*Answer.*—The Eighty-sixth New York Infantry was organized in Elmira, N. Y., in 1862, for the three-months' service. Its companies were formed of volunteers from Steuben, Chemung, and Onondaga Counties. It was mustered in Sept. 5, 1862, to serve till Nov. 25 following. At the latter date the original regiment was mustered out, and those desiring to re-enlist with the recruits were mustered into the three years' service. The battles of the re-organized

regiment were as follows: Second Bull Run, Fredericksburg, Chancellorsville, Gettysburg, Mine Run, the Wilderness, Spottsylvania, North Anna, Tolopotomy Creek, Cold Harbor, and Petersburg. The regiment was mustered out June 27, 1865.

## THE MOON AND THE WEATHER.

OSAWATOMIE, Kan.

Is the weather affected by the moon in any degree? Is there any foundation for the idea that seed should be planted in the new of the moon? What relation has the moon to the earth anyway?

MRS. M. WILSON.

*Answer.*—Superstitions concerning the effect of the moon on the earth are very common, but are wholly without foundation in reality. The relation of the moon to the earth is simply that of a satellite, whose attraction has an important influence on the earth's motion in its orbit, and on the shifting level of its oceans, causing the tides. It might be supposed that if the moon can attract the water upon the surface of the earth she can also attract its atmosphere, and thus, through movement of the air-currents, have a perceptible influence upon the weather. But investigation shows that as the aerial mass is in no way confined in estuaries or gulfs, its tide caused by external attraction must be slight. So far as can be indicated by the barometer it is too small to be worth reckoning, being less than .001 of an inch. The idea that the position of the new moon concerns the weather is utterly without reason. The nearly horizontal crescent which is said to foretell a dry month is always seen when the plane of the moon's orbit is so situated with regard to the earth, as to carry the moon past conjunction above the sun, and the vertical crescent—which is called a wet moon because it pours the water out—appears when the luminary passes conjunction below the sun. In neither case can there be anything to affect the moisture of the atmosphere. It is true that many people will say that they have observed this sign and "never knew it to fail," but the fact with this as with most "signs" is that coincidences which prove the sign are noticed and remembered, while those which do not are overlooked and forgotten. Any one who will take the trouble to write down the condition at every lunation will find that the showing for the sign is very doubtful at the end of the year. At Munich, Germany, observations were taken for over twenty years of the condition of the moon on every rainy day. The sum of these gave the larger proportion of rainy days in the last half of the lunation, or during the waning moon. But similar observations made at Montpelier, France, showed a directly opposite result, so that nothing can be said to be proved by either series of observations. A very generally received idea is that changes in the weather usually coincide with the changes of the moon. But at Vienna a series of observations gave 100 new moons with 58 changes of weather; 100 full moons with 63 changes of weather, and 100 changes of each quarter, 63 changes. The result might be supposed to indicate that the new moon brings the fewest changes of weather, which is directly contrary

to tradition. Another observer by counting two days on each side of the day of new moon, found six new moons out of seven bring changes of weather. But it must be remembered that in the fickle climate of the temperate zone, if we were to take any five days of the month for observation, we should find a majority of them bring change. Another belief that the moon disperses or, as sailors say, "eats" the clouds, can be defended, as the full moon reflects a very little solar heat which may have sufficient power to expand vapor and dissipate clouds. The traditions concerning the time of the moon to sow garden seed, to kill pork, to cut timber, and the like, are founded neither on fact nor rational theory of any kind, and need only be tested to show their entire absurdity.

#### MEASURING RAINFALL.

Give us a method for ascertaining the average rainfall of any place.

SALINA, Kan.

L. A. AUSTIN.

*Answer.*—The average rainfall is learned by the use of the rain-gauge. The collector of the gauge may have any diameter—one of about six to eight inches is generally used—it must be of thin sheet metal and cylindrical form. The mouth of the collector should be from one to two feet above the ground. The rain collected in this should flow at once with the least possible loss into a receiver or holder where it is protected against evaporation. This holder should be large enough to contain all the rain that may be caught in the heaviest single fall of rain. Rain-gauges should be placed in an open space or field, apart from the neighborhood of trees or buildings. These instruments are kept in constant use by meteorological observers, so that the amount of rainfall during each month may be known. At the end of the year the average of the monthly record gives the average rainfall for the year.

#### MASQUERADES.

Give the origin and history of the custom of masquerading.

LIBERTY, Neb.

C. E. LEEPLEY.

*Answer.*—The custom may be said to be as old as human folly, having its birth in the desire to indulge in undignified sport or unlawful intrigue without exposing one's self to the criticism of censorious acquaintances. Sundry riotous sports in which the participants were disguised or masked, formed a part of the Roman games of the Saturnalia. It is said that Poppæa, the wife of Nero, invented the mask to hide her complexion from the sun, but long before her time these disguises were used at theaters and the Saturnalian games. The poet Horace says that Æschylus was the first to use them on the stage, but more probably their origin is unknown. Masking in games as a shield for riotousness found its way into the countries of France and England in the mummeries at Christmas, Easter plays, the "Feast of Fools," etc. It was the custom, also, in the pageants and miracle plays of the middle ages, for masked characters to take part in representing imaginary or allegorical personages. The wearing of masks, too, was common among the beaux and belles of society in their promenades in the parks and gardens of London and Paris. The festive gathering, in which all

were more or less disguised, was in fashion in the English court as early as the beginning of the fourteenth century. The spice of mystery and romance about it, to say nothing of the opportunity it afforded for indulging in the sweetness of "stolen waters," created and continued its favor. It is said that the masquerade was first introduced into the court of France by Catherine de Medici about 1550. It did not reach the German courts until some time in the seventeenth century. It fell into desuetude in England, but was revived and carried on to such an extent in the time of Charles II. that the indignation and protest of the church were aroused. In the reign of George I. laws were passed suppressing the custom of masquerading altogether. The "masque," in the English drama, was a play in which the parts were sung by actors masked or disguised to represent characters in allegory. At first it was a mere musical pageant, later it became a pleasing dramatic entertainment, and some very fine poems were written in this form by Fletcher and Ben Jonson, and even Milton, whose "Masque of Comus" is one of the finest poems ever written. The masque was undoubtedly the precursor of the modern opera.

#### SIERRA NEVADA SNOW SHEDS.

ELLWELL, Mich.

Please give a brief description of the snow sheds of the Central Pacific Railroad on the Sierra Nevada Mountains.

W. T. FITZ.

*Answer.*—The snow sheds over these mountains are found east of Strong's Canyon Station and west of Emigrant Gap, wherever there is no side hill, and the removal of the snow would be difficult for the plow. Except for tunnels and bridges they are without break between these stations, a distance of over fifty miles. The sheds are built in two ways, with a flat roof, or a steep-pitched roof. The roof is made of massive, square timbers, and is supported by huge trunks of trees. The sheds are high enough within to permit the brakemen to walk safely on the tops of the freight cars. The cost of building these sheds was from \$8,000 to \$10,000 per mile, and in some places where heavy side walls of masonry are built, the cost was \$30,000 per mile. At intervals, also, the sides and roof are built of corrugated iron instead of timbers, to prevent the spread of fires, for in the summer time when everything is dry and sun-scorched the danger of fire is great. The whole line is also supplied with automatic fire alarms.

#### THE SOCIETY OF THE ORANGEMEN.

ONEIDA, Kan.

Will "Our Curiosity Shop" give a brief history of the Orangemen's society in the North of Ireland and elsewhere.

CYRUS SHINN.

*Answer.*—The society of the Orangemen was founded in 1795. The first lodge was formed in Armagh, and the name was taken in honor of King William III., Prince of Orange. The object of the society was avowedly to uphold Protestant institutions and interests and thus to counteract the Roman Catholic secret association known as "the defenders." The two opposed societies were soon involved in fierce hostility, as nearly all of the peasants belonged to one or the other, and wherever they met in any numbers fighting and riots were sure to occur. The order waned



somewhat in the early days of the century, but in 1827, when the Duke of Cumberland became Grand Master, it revived. In 1828 and 1829 a number of fights occurred which were suppressed by the militia with difficulty. In 1835 the British parliament ordered an investigation of the association. It was found that thirty-four regiments of the army had Orange lodges; that there were 145,000 Orangemen in England and 125,000 in Ireland. As the order was declared subversive of the peace of communities, Orange clubs in both England and Ireland were broken up in conformity with a resolution of the House of Commons. Orangism was revived, however, in 1845, and still exists largely in the British islands, though its processions there are forbidden by law. It was introduced into British America in 1829, and as its meetings are not illegal there its political influence is very great and its membership enormous. A number of lodges also exist in the United States.

## WINDSOR CASTLE.

Give a history of Windsor Castle, England, and description of its building.

EDEN, Ill.

L. P. WINDSOR.

*Answer.*—Windsor Castle is near the town of Windsor, which is situated on the right bank of the Thames, twenty-three miles west of London. It is said that there was a fortress here which the Saxon kings used before the conquest, but the present castle was founded by William the Conqueror. Henry I. enlarged the plan and completed it, and it was first used as a royal residence about 1110. Henry III. made some additions to the building, but it was in the reign of Edward III. that the castle as known to modern history was constructed. The buildings were almost entirely rebuilt under the designing hand of William of Wykeham, by far the most famous architect of his century—and the King called upon every county of England to contribute its quota of masons, bricklayers, and carpenters to share in the work. St. George's Chapel was begun by Henry III., completed by Edward III., and rebuilt by Edward IV. Some additions were made to the buildings by Henry VIII., and Queen Elizabeth formed the terraces and built the gate now called by her name. Charles II. built the star building. St. George's Chapel was defaced by the Puritans, but was repaired and redecorated in 1787-90. In 1824-3 the castle was repaired and enlarged, but little alteration has since been made. The buildings connected with the royal residence here cover twelve acres of ground. In the middle is the round tower, on the west are the residences of various retainers of the court, and the chapel, and on the east are the sovereign's private apartments. They stand in the midst of a park known as "Little Park," which is four miles in circumference, and is connected by a long avenue of trees, south of the castle, with the "Great Park," which is eighteen miles in circuit. West of this is Windsor Forest, which has been a famous forest from the earliest times of which we have any record. In the time of William the Conqueror it was 120 miles in circuit; in 1607 it was 77½ miles

round, and it has since been reduced in its bounds to 56 miles. In the royal vault connected with St. George's chapel a number of kings and queens are buried. The round tower is said to have been built by Edward III. to receive the round table of the knights in the newly founded order of the garter. This tower contains a keep in which royal prisoners have been frequently confined.

## THE WASHINGTONIAN HOME.

DEWITT, IOWA.

Give an account of the Washingtonian Home of Chicago, its founding, number of inmates, etc.

B. G. HALL.

*Answer.*—In 1863 the Good Templar lodges in Cook County secured from their grand lodge a donation of fees and dues to be set apart as a fund to be used for the establishment of a reformatory for inebriates. In January, 1864, the Washingtonian Home Association was organized and incorporated. A building on South State street was occupied for a time, and then the property at Nos. 566-572 West Madison street—once the site of the Bull's Head Tavern, a noted public house of early days—was purchased for \$10,000. A special charter was granted to the corporation, giving to the Home 10 per cent of the revenues derived by the city from the sale of intoxicating liquors. To the income derived from this source was added a bequest of \$19,000, and in the early part of 1875 the present spacious building now occupied by the Home was built at a cost of \$56,489. Its furnishing cost over \$6,000. It contains accommodation for 112 patients, with a hospital and chapel attached, also laundry, kitchen, etc. Nearly seven thousand patients have been received in this institution for treatment since its founding.

## UNDERGROUND TELEGRAPHS.

SOMERVILLE, Ind.

Tell something about the laying of telegraph wires underground, how they are insulated and laid, and how connections are made.

W. WARD.

*Answer.*—The substance used for insulating underground wires in England, where the system of subterranean lines has been longer on trial than anywhere else, is gutta percha. A thick covering of this substance is laid over the wire; this is thickly tarred, then covered with linen tape and another coating of tar laid on. This protection is needed to keep the gutta percha from the atmosphere, exposure to which causes it to crack and decay, thus destroying the insulation. In Germany the subterranean lines are covered similarly to ocean cables, with layers of gutta percha, about which is wound tarred hemp, the whole encased in a covering of iron. In England there are over 10,000 miles of underground wire in operation, but it is complained that the insulation obtained through their method of covering wire is not perfect, that rats often get into the pipes, and gnaw the gutta percha envelopes, and that these are also injured by insects and a species of fungus. Several improvements in insulation have been tried in this country. The Brooks system, invented by David Brooks, of Philadelphia, is said to be the most successful. In this the wires are first wrapped in cotton, and then as many as fifty or more are bound together in a

tight cover of netting, the whole being then enclosed in a pipe. The pipe is then filled with liquid paraffine and is kept continually full under pressure, the oil serving not only as a water-tight protection but a perfect insulator for the cable. All underground wires are laid in sections, generally of about 400 yards in length, and are then joined. Boxes with trap covers are placed at the joints for convenience in testing the wires and drawing them in or out. Connections are made with underground wires just as with wires above ground, the only difference being the added difficulty in the former case. The main objection to the use of subterranean lines is the difficulty and expense of keeping them in repair. When a line does not work well it is very hard to ascertain where the trouble is, and no easy task to remedy it when found.

#### ONE HUNDRED AND FIRST OHIO INFANTRY.

SANDUSKY, Ohio.  
Give a brief history of the One Hundred and First Ohio Infantry. T. H. R.

*Answer.*—This regiment was recruited from the counties of Erie, Huron, Seneca, Crawford and Wyandotte, and was mustered in at Monroe, ville, Aug. 30, 1862. It was sent forward to join General Buell's army, and was at the battles of Perryville and Stone River, losing in the latter engagement seven officers and 212 men killed and wounded. In June, 1863, it took part in the Tullahoma campaign, and was at the battle of Chickamauga, Aug. 19-20. It shared in the Atlanta campaign and was in the battles of Jonesboro, Franklin, and Nashville. After the last-named battle, it followed in pursuit of Hood to Lexington, and marched thence to Huntsville, where it went into camp. It remained there until June 12, 1865, when it was mustered out of service.

#### FIFTY-NINTH ILLINOIS INFANTRY.

AVON, Ark.  
Give a brief history of the Fifty-ninth Illinois Infantry, and tell why it was mustered in as the Ninth Missouri? D. W. HENDERSON.

*Answer.*—This regiment was organized at St. Louis, and was mustered in Sept. 16, 1861. It was made up of companies which had previously been mustered into the United States service separately; and when thus brought together as a regiment, it was accounted a Missouri organization, though nearly all the men had enlisted from Illinois. Sept. 22 the regiment embarked for Jefferson City, and was engaged in active campaigning through Missouri till the spring, taking part in the battle of Pea Ridge. Before this battle the name of the regiment had been changed, in obedience to the wishes of the men, to the Fifty-ninth Illinois. In May the regiment was sent South in time to take part in the siege of Corinth. After several skirmishes during the summer the regiment joined Buell's army Sept. 1. It bore a gallant part in the battle of Perryville, losing there 113 in killed and wounded. It was in the engagements of Franklin, Nolensville, Knob Gap, Murfreesboro, and Liberty Gap. At Chattanooga it was foremost in the fights of Lookout Mountain and Mission Ridge, and followed the enemy to Ringgold, taking part in the fight there. The regiment re-enlisted in January, and after its return from

furlough shared in all the fights of the Atlanta campaign. It was sent in pursuit of Hood's army, and was at the battles of Franklin and Nashville. June 16, 1865, it was sent to New Orleans and thence to Indianola, Texas. It was sent home Dec. 9, 1865, and was paid off and discharged at Springfield Jan. 6, 1866.

#### THIRTY-FOURTH ILLINOIS INFANTRY.

GRAVITY, Iowa.  
Give a sketch of the Thirty-fourth Illinois Infantry, giving its regimental officers, number of its battles, etc. JAMES ELLIOTT.

*Answer.*—This regiment was made up of companies from four of the Northern and two of the Southern counties of the State. It was organized at Camp Butler and mustered into service Sept. 1, 1861. Oct. 2 it was sent to Cincinnati, and thence into Kentucky. It was made a part of Buell's army, and was present at the evacuation of Bowling Green. April 6, 1862, after a weary march, it came within sound of the cannon at Shiloh. In the battle of the 7th Major Levanway and Lieutenant Colonel Bosworth, of the regiment, were killed, and Colonel Kirk was severely wounded. The regiment lost 102 in killed and wounded in that fight. It was at the siege of Corinth, and then with Buell's army moved into East Tennessee and shared in the weary marches and counter-marches of this army. It was at the battle of Stone River, where its loss was 118 in killed and wounded. General Kirk, who had recovered from his former wound and received promotion, was here wounded mortally. The regiment was in the fight at Liberty Gap, and during the summer was employed in guarding and repairing roads. It was on the battle-field of Chattanooga under fire for about an hour, but received no loss, and was then withdrawn. It re-enlisted in January, took its furlough and returned to Chattanooga in March. It took an active part in the battles before Atlanta. It went through with General Sherman to the sea, was in the grand review at Washington, then returned to Chicago, where it was discharged July 16, 1865. The regimental officers of the Thirty-fourth, on original roster, were: E. N. Kirk, Colonel; Amos Bosworth, Lieutenant Colonel; C. N. Levanway, Major; D. Leavitt, Adjutant; A. Beeler, Quartermaster. As both the Lieutenant Colonel and Major were killed at Shiloh, Captain Bristol of Company B, and Captain Dysart, of Company C, were respectively promoted to these positions. Subsequently, when Colonel Kirk was promoted, Bristol became Colonel, and when the latter resigned because of ill-health, Dysart succeeded to his position.

#### THE SUEZ CANAL.

COST, Ga.  
Give a brief history and description of the Suez Canal. J. W. GARRISON.

*Answer.*—The first connection between the delta of the Nile and the Red Sea was made about 1300 B. C. with a channel to carry water. Pharaoh-Necho, 700 years later, projected a ship canal, but as the oracle assured him that he was making it to assist an invasion of his kingdom he desisted. Subsequent rulers, however, carried on the work. Darius Hystaspis cut the canal through to the lower Bitter Lake, thirty-seven miles, and Ptolemy Philadelphus continued it to



the Red Sea. This channel became filled with sand, and was cleaned out by the Roman Emperor Trajan in the second century, who altered its course somewhat. Again the canal became useless from the sand, and remained so till the Caliph Omar took Egypt—638-40 A. D.—and had the channel cleared a second time. But the Caliph Al Mansour had it filled up again in 766, after which it was not again used. In modern times Napoleon I was the first to call attention to the subject of this canal. He had the route surveyed by a corps of engineers who reported a canal impracticable, because the level of the Red Sea was thirty feet higher than that of the Mediterranean. This was subsequently found to be an error. In 1854 the exclusive right to build the canal was granted to M. de Lesseps by the Egyptian Government. A company was formed in 1858 with a capital of 200,000,000 francs, afterwards increased by a loan of 100,000,000 francs. First a fresh water canal was dug from the Nile at Zagazig to Suez, much of the way along the line of the ancient canal, for transportation and also for supplying water to the workmen on the line. This channel is navigable the whole distance, its falls being overcome by locks. At Ismailia, fresh water was forced into a double line of nine-inch pipes, and carried by them to Port Said, on the Mediterranean Sea. The salt water channel was then excavated, extending from Port Said to Suez without locks. The length of the canal is 100 miles, its width at the top from 195 to 325 feet, and its depth twenty-five feet. At Port Said an immense harbor basin was made, and two storm-jetties extending several thousand yards into the sea. At Suez the works consisted of a harbor basin and a breakwater to protect the entrance of the canal from southerly winds. The canal was officially opened November 17, 1869.

#### THE ANGORA GOAT.

Tell something about the Angora goat, and where it is raised.

*Answer.*—Angora is the name of a province and city in the mountainous region of Asia Minor. It is especially celebrated for a peculiar breed of goats, with beautiful white, silky hair, eight inches long. These goats are raised on the mountain plateaus, and it is thought that the fineness and silkiness of their fleece is owing to some peculiar condition of the atmosphere and climate in that locality, as other animals of the region—dogs, rabbits, and cats—have also peculiarly long and soft hair; and when the goat is removed to other countries the quality of the fleece soon greatly deteriorates. The fleeces are shorn twice a year, and average somewhat over one pound at each shearing. There are estimated to be over 1,000,000 of these goats in the province of Angora, and the yearly yield of wool is about 2,700,000 pounds. This wool is used in the manufacture of shawls, also for a kind of yarn known as Turkish yarn, or camel yarn. The latter name has led to the impression that the yarn is made of camels' hair, but the fact is the name is derived from the Arabian word *charmal*, meaning fine.

DIXON, Ill.  
W. SCOTT.

Cloth made from the Angora wool is called camel cloth, and shawls are camel-shawls. The Angora goat is raised to a limited extent in other countries, but its fleece is nowhere so valuable as it is in its native locality. It was first introduced in South Carolina in 1849, and as its breeding and use has been fairly successful, others have been imported there at several times since, and also to other States.

#### FORTY-SIXTH INDIANA INFANTRY.

OAKLEY, Ind.  
Give a brief history of the Forty-sixth Indiana Infantry. J. MAXWELL.

*Answer.*—The Forty-sixth Indiana Regiment was organized at Logansport Oct. 4, 1861, G. W. Fitch, Colonel. Was sent to New Madrid, and thence to Memphis. It took part in the White River expedition, and in various other minor expeditions during 1862, being marching and skirmishing most of the time. In April, 1863, it joined General Grant's army moving against Vicksburg; was at the battle of Port Gibson and Champion Hill, and was in the trenches before Vicksburg forty-four days; was then sent to Jackson, thence to Natchez, and on to New Orleans, and took part in the Bayou Teche expedition. Jan. 2, 1864, the regiment re-enlisted. It went with General Banks on the disastrous Red River expedition. It went home for veteran furlough in June, and after its return was on duty at various points in Kentucky till mustered out Sept. 4, 1865.

#### LIVINGSTONE'S TRAVELS IN AFRICA.

CHICAGO.  
Give an account of Dr. Livingstone and his travels in Africa. D. C. KAXHLE.

*Answer.*—David Livingstone was a native of Scotland, and was born at Blantyre in 1817. When but 10 years old he was put to work in a cotton factory, and remained there a number of years, gaining all his education at the evening school. By diligence he mastered thus a complete course of study, including the classics. He then took a course of medicine at Glasgow University, and attended theological lectures and offered himself to the London Missionary Society, by whom he was ordained and sent out to Port Natal, Africa, in 1840. He met there the noted missionary, Robert Moffat, whose daughter he subsequently married. Livingstone labored as a missionary for sixteen years. During this time he traveled much through the country, and Aug. 1, 1849, discovered Lake Ngami. He also crossed the continent of South Africa from the Zambesi River to the Congo, and thence to Loando, the journey occupying about eighteen months, from January, 1853, to June, 1854. In September of the latter year he left Loando on his return across the continent, reached Linzanti (lat. 18 deg. 17 min. south, and long. 23 deg. 50 min.), and thence proceeded along the Zambesi route to Quillimane, on the shore of the Indian Ocean, reaching this place May 20, 1856, whence he took ship for England. In 1857 he published his "Missionary Travels and Researches in South Africa." In 1858 he went as British Consul to Quillimane, and spent several years in further exploring the Zambesi and ascending the Shire River, and discovered

Lakes Shirwa and Nyassa. During a visit to England in 1864-65 he published an account of these discoveries. In the meantime the lakes Tanganyika, Victoria Nyanza, and Albert Nyanza had been discovered by the expedition of Burton and Speke, but the true source of the Nile was still a problem, and with a view to its solution Livingstone in 1866 entered the heart of Africa. For two years nothing was heard from him. In 1869, however, letters were received from him describing his discovery of the great water system of the Chambeze in the highlands south of Lake Tanganyika. He found here a succession of lakes, but whether they were the head waters of the Congo or of the Nile he could not tell, and it was this problem that he meant to solve, in spite of the difficulties in his way. No further word was received from the intrepid traveler until Mr. Stanley pushed his way into Africa in search of him and found him at Ujiji Nov. 10, 1871. A full account of this discovery and of the last exploration and the death of the great traveler is given in Our Curiosity Shop book for 1885.

#### THE DOUGLAS FAMILY.

MENDON, Mich.  
Give the lineage of the Douglas family, of Scotland.  
BERTHA BUTLER.

*Answer.*—The first of this historic family to be mentioned in the records was William of Douglas, whose name appears as a witness to certain royal documents between the years 1175 and 1213. His son was Archibald of Douglas, who was the first of his family to receive the honor of knighthood. His two sons, Hugh and William, succeeded him one after the other. The second, Sir William, was a leader in William Wallace's army, but after the disastrous battle of Falkirk he submitted to the King and was sent as a prisoner to England, where he died about 1302. His son, Sir James of Douglas, was a prominent figure in Scottish history. He was known as "The Black Douglas," because of his swarthy complexion, and was Robert Bruce's most trusted and valiant champion. He was killed in battle in Andalusia, Spain, in 1330, on his way to the Holy Land, with the heart of Bruce. As he was unmarried, his rank and property went to his brother Hugh, who, also dying without legitimate issue, made over the family inheritance in 1342 to his nephew William, son of Archibald, a younger brother of the Black Douglas. This Sir William, for valor in battle, was made earl of Douglas, and by marriage also became Earl of Mar. His son James, the second Earl of Douglas and Mar, fell on the field of Otterburn in 1388, and as he left no legitimate children the direct male line of the first Sir William Douglas became extinct. The earldom was then bestowed by royal favor on an illegitimate son of the Black Douglas—Archibald, lord of Galloway. His son Archibald, who succeeded to the earldom in 1401, was several times wounded and twice taken prisoner in the wars with England, and finally escaping to France fell on the battle field of Vernouil in 1424, and left his fame to his son Archibald, who also distinguished himself in the French army. The

next Earl, William, son of the last mentioned—came into the great possessions of the family—which now included lands and houses in France, England, and Scotland—in 1439. His wealth and power excited royal jealousy, and he and a younger brother were invited to visit the King, and, while in the palace, were by a mock trial condemned to death, and then beheaded. This was in 1440. The French possessions of the family were now lost, and the Scotch earldom went to the grand uncle of the murdered William, a second son of Archibald of Galloway. To him succeeded his son William, who headed a revolt against the King. Then being summoned to the royal presence he went, but the King in a rage at his dauntless manner, stabbed him to death. His several brothers made war upon the King for this deed. The two younger ones were killed, the oldest, James, escaped into England. Returning some years later at the head of an army, he was taken prisoner, but his life was spared on condition of his becoming a monk. He died in 1488. Thus the elder illegitimate line of the Douglasses became extinct. A younger illegitimate line, the Earls of Angus, were now coming forward to hold up the name of the family. This line originated in George—son of William, the first Earl of Douglas—who, though he bore a bar sinister on his shield, won honors and wealth by his bravery on the battle-field and married King Robert's daughter. When the Douglasses of the elder line revolted against the King for the murder of their brother, Earl William, the younger line sided with the King, and its head, George, younger son of the first Earl of Angus, was rewarded with a grant of Douglasdale, the old inheritance of his kinsmen. The son of this Earl, Archibald, was the Douglas in Sir Walter Scott's poem, "Marmion." He was known as "the great Earl" because of his power and wealth, and retained his vigor to a great age. He outlived his son, and was succeeded by his grandson, Archibald, who married the Queen Dowager of Scotland, Margaret, sister of Henry VIII, of England. This was the Earl who was banished by his step-son, James V., on the latter's coming of age, and it is his uncle who figures as the outlawed Douglas, the father of Ellen, in "Lady of the Lake." But that pretty romance of the King's clemency is altogether fictitious, for the King never relented toward the Douglasses. Upon his death, however, in 1542, Angus returned to Scotland, and was restored to his possessions. He died in 1556, and his nephew, who succeeded him, died two years later, leaving his honors to an only son, Archibald. This Earl died in 1588 without sons, and his title devolved on William, a great-grandson of the great Earl Archibald. His son William, who succeeded in 1591, became a Roman Catholic and was forced to leave Scotland, and died in Paris in 1611. His son was the first Marquis of Douglas, and when he died in 1860 was succeeded by his grandson, James, who died in 1700, leaving one son and one daughter. The son, Archibald, became Duke of Douglas in 1703, and died childless in 1761. His dukedom became extinct, his marquise went to the Duke of



Hamilton, the eldest descendant in the male line from the first Marquis of Douglas, and his property went to the son of his sister, the wife of Sir John Stewart. This gentleman was made a British peer in 1790, with the title of Baron Douglas of Douglas Castle, but this also became extinct on the death of his son James in 1857, and the estates passed to female members of the family. Other branches of the Douglas family were the Earls of Morton, of Queensbury, of March, of Solway, of Selkirk, of Forfar, and of Dumbarton, but their history is of but little importance, and most of the titles are now extinct. But it will be seen from the brief outline that we have given that a full history of the main branches of the Douglas family would be a history of Scotland itself, so important a part did they play in its wars and its state affairs for over four centuries.

#### THE STURGES RIFLES.

CHICAGO.

What became of the company called the "Sturges Rifles?" It was organized in Chicago early in the war, and I never knew anything of its war record. Which one of the Sturges family founded the organization?

F. A. O.

**Answer**—This company was one of the first formed in Chicago after the first call for troops. Solomon Sturges, a wealthy citizen, offered to arm, equip, and defray the whole expense of the outfit, drill, and transportation to any point ordered, of a company of sharpshooters. Thereupon the company called the Sturges Rifles was formed. May 6, 1861, it was mustered into service and went into camp on Cottage Grove avenue, at Camp Sturges, where it remained until June 20. On that day, in obedience to an order from General McClellan, it started for the seat of war. The company was attached to the headquarters of General McClellan, forming part of his escort. It accompanied him on his Virginia campaign, participating in the battles of Philippi, Rich Mountain, and Beverly. At Rich Mountain the men fought dismounted, as sharpshooters, and were thereafter known as the Sturges Sharpshooters. In September they were consolidated with several other companies to form the Fifty-first Illinois Regiment.

#### MEXICAN REVOLUTIONS.

FORT DAVIS, TEXAS.

Give a brief history of the wars and revolutions of Mexico, from 1810 to the present time.

R. C. MORENO.

**Answer**—The revolution of 1810 was headed by a priest, Don Miguel Hidalgo. Its object was the overthrow of Spanish rule in the country, and before the end of the first year of revolt Hidalgo had over 100,000 men under arms. He was betrayed, however, and captured March 21, 1811, and four months later was shot. The contest was continued by another priest, Morelos, who called a national congress, that met in September, 1813, and in November declared Mexico independent. In October, 1814, the first Mexican constitution was formulated. In 1815 Morelos was taken and executed as a rebel. The patriots kept up a guerrilla warfare for some time longer, but accomplished no definite result, and the authority of Spain was again re-established. In 1820, the success of the liberal revolution in

Spain renewed the hopes of the Mexican patriots. Don Augustin Iturbide, an officer in the royalist army, threw off his allegiance, and proclaimed Mexico independent Feb. 24, 1821. This revolt was successful. The whole country recognized his authority, and May 19, 1822, he was proclaimed Emperor. His reign, however, was short. In December, of the same year, Santa Anna and other chiefs proclaimed a republic, and, in March, Iturbide abdicated rather than see the country again plunged into civil war. In October, 1824, a constitution based on the model of that of the United States was drawn up, and was subsequently adopted by the people. Since then, Mexico has been in a chronic state of revolution, so to speak. The first President under the constitution was General Victoria. At the second Presidential election, in 1828, the candidates were Generals Pedraza and Guerrero. The former being elected, the latter headed a rebellion against him, drove him from his office and forced him to flee from the country. Guerrero was then constituted President, but was deposed by his Vice President, General Bustamante, in the latter part of 1829. Bustamante then had himself made President. At the election of 1832 General Pedraza was again chosen, but had been only three months in office when he was deposed by Santa Anna, the latter taking office April 1, 1833. Laws passed during his administration, appropriating the church property to the payment of the national debt, brought on an insurrection, which ended in 1835 in the abrogation of the constitution of 1824, and the conversion of the confederation of states into a consolidated republic, of which Santa Anna was nominally constitutional President and practically dictator. The unwillingness of Texas to acquiesce in this change led to a war between that province and the government, in which the Texans were successful, and took Santa Anna captive. During his captivity Bustamante, who had returned from exile, became President April 19, 1837. Santa Anna, returning to the country at the close of the year, inaugurated a new revolution. He became Provisional President in March, 1839, holding office until July, and was succeeded by General Bravo, who was President for a week. A long period of confusion followed, the constitution was suspended, and the government became a dictatorship, at the head of which was alternately Santa Anna, Bravo, and Canalizo, from Oct. 10, 1841, to June 4, 1844. Constitutional government was resumed in 1844, with Santa Anna as President. He was deposed and banished by a revolution in September following, and was succeeded by Canalizo, who held office until December. His successor, Herrera, was in office one year, and was deposed by a revolution in December, 1845, and was succeeded by General Paredes. During the next year Santa Anna, who had returned from exile, was made President by his party. In the war with the United States which now followed Santa Anna was overthrown. Herrera was again made President, holding office for two years, and gave place to

General Arista, who was deposed by the Santa Anna party in 1853. The last-named officer was for the fifth time made President in this year, but, having attempted to secure the office for life, he was overthrown in August, 1855, by a revolution under General Alvarez, who was at once appointed in his place. Alvarez resigned in favor of Comonfort in December following, and a series of revolutions ensued, chiefly instigated by the church party. A new constitution was adopted in 1857. In January, 1858, Comonfort was deposed in favor of General Zuloaga. Benito Juarez, who as Chief Justice of the Supreme Court was, according to the constitution, the lawful successor of a President deposed during his term of office, now headed a revolution against Zuloaga. He was defeated in the first battle, but going to Vera Cruz he established himself there as constitutional President. Zuloaga abdicated in favor of his general-in-chief, Miramon, who now headed a campaign against Juarez, which terminated, however, in the triumphal entry of the latter into the capital Jan. 11, 1861. Juarez held the office of President and personally commanded the army during the war with France. The conservative party, backed by the French army, succeeded in foisting an imperial government in the person of Maximilian of Austria upon the country in 1864, but this was overthrown in 1867, and the ill-fated Emperor, unfortunate dupe of French diplomacy, paid for his credulity and unwise ambition with his life. Juarez is notable as the first President of Mexico who held power during his full term of office. He held the Presidency until 1872, putting down several minor revolutions in the meanwhile. In 1872 Lerdo was elected, and managed to keep the revolutionists quiet during a four years' term, but on his re-election in 1878 they broke out again. Lerdo and his Cabinet were banished, and Porfirio Diaz, leader of the insurgents, was made President. A few revolutionary outbreaks against President Diaz were promptly suppressed. In 1880 M. Gonzalez, the candidate of the government party, was elected. The country was kept in a condition of remarkable quietness during his administration, but in the summer of 1884 there was an attempt at a revolution again. It was promptly suppressed, and in the autumn Porfirio Diaz was peacefully elected President, assuming the functions of his office Dec. 1, 1884.

#### HORACE MANN.

Give brief account of the life and character of Horace Mann and his work in the schools of Massachusetts. S. M. AIKEN.

*Answer.*—Horace Mann was born in Franklin, Mass., May 4, 1796. His father was a farmer in humble circumstances, and he had but meager opportunities for education, but his active mind gave him power to triumph over his disadvantages. He prepared himself for college when 20 years old and entered Brown University, where he graduated with the highest honors in 1819. In 1821 he entered the law school at Litchfield, and in 1823 was admitted to the bar, beginning the practice of law at Dedham. He was elected in 1827 to the State Legislature, and in 1834 to the State Senate. As a lawyer he was

very successful, gaining, it was said, four out of every five of all the contested cases in which he was engaged. It was his principle never to take the unjust side of a case, and the great influence which he exerted over the minds of the juries was no doubt owing to his earnestness and honesty of purpose. In 1837 he was elected Secretary of the Massachusetts State Board of Education and was unanimously re-elected to the same position for eleven successive years. He devoted himself to his duties there with the greatest zeal, and by his lectures and writings awakened an interest in the cause of education never felt before in the State. Through his influence a general reform of the educational system of the State was carried out, and important changes were made in the school laws. In 1843 he went to Europe, and spent several months in inspecting the schools of Germany and other countries. In 1848 Mr. Mann was elected to Congress. He took a strong stand against the extension of slavery in the Territories, and this led to his failure to receive the nomination again in the Whig convention in 1850. But he was subsequently nominated as an independent candidate and was triumphantly elected. In September, 1852, Mr. Mann was chosen President of Antioch College, Yellow Springs, Ohio, and on the same day was nominated by the Free-soil party for Governor of Massachusetts. He was not elected, but accepted the college presidency, and under his able management the school became very successful. But his labors there were too intense, and his strength began to fail. He died Aug. 2, 1859.

#### RUFUS CHOATE.

PINCKNEYVILLE, ILL.  
Give a brief sketch of the life of Rufus Choate  
B. A. TURNER.

*Answer.*—Rufus Choate was born in Ipswich, Mass., Oct. 1, 1799. As a boy he was remarkable for his love of reading, and had read through every volume in the village library, even the ponderous theological works, before he was 10 years old. He entered Dartmouth College in 1815, and soon took his place at the head of his class. After graduating he taught for one year, then entered the law school at Cambridge, but only remained there a few months, when he went to Washington and completed his legal studies in the office of William West, then Attorney-General of the United States. He began the practice of his profession in Danvers, Mass., in 1824. In 1825 he was elected a Representative to the Massachusetts Legislature, and in 1827 was in the State Senate. In 1832 he was elected to Congress, and was nominated for re-election in 1834, but declined the honor, preferring to devote himself to his profession. He then removed to Boston, where he soon attained a most brilliant reputation as an advocate. After Mr. Webster entered the cabinet of President Harrison Mr. Choate was chosen to fill his place in the Senate. After the close of his term in 1845, however, he declined to take any further part in public affairs. In 1858 his health gave way, and he was



obliged to retire from active business. A voyage was advised, and he set sail for Europe, but was taken ashore in a very feeble condition at Halifax, where, after a few weeks, he died, July 13, 1858. Mr. Choate's especial talent was as an advocate. His speeches were not only careful in argument, but brilliant in expression, and his persuasive power in delivery was marvellous. Whether addressing a jury or an audience, he seemed to move their minds almost at will. His writings have been gathered and published, with a sketch of his life written by Dr. S. G. Brown, of Boston.

#### INHABITANTS OF SIBERIA.

BRUCEVILLE, Ill.  
What kind of people live in Siberia? How are they governed and what is their occupation?

WALTER STEVENSON.

*Answer*—The population of Siberia is composed of various tribes and races. More than half are Russians or Russian descendants, some of whom came to the country as volunteer immigrants, but the greater part were sent as exiles. These exiles consist of three classes, criminal, political, and religious offenders. The worst class is condemned to the mines, and those whose offenses are lighter are employed at less laborious work, while the rest are formed into settlements under the supervision of the police, and receive grants of land for their cultivation. The native Siberian tribes are quite numerous, for it must be remembered that Siberia is a very large country. In the Northwest are the Samoyeds, and the Ostiaks, who occupy the country south of them as far east as the river Yenisei. These people live by fishing and hunting and very few of them are civilized to any degree. In the southwest the principal tribe is the Kirghiz, occupying the wide cold steppes called by their name; they are still in a barbarous state. West of the Altai mountains are the Kalmuck Tartars, who have become partially civilized. They carry on some manufactures of iron, and raise grain, but mainly subsist by the raising of flocks and herds. Another important tribe is that of the Buriats, who live chiefly in the region around Lake Baikal, and comprise the most numerous single tribe of Siberia. All of the many tribes of Northwestern Siberia may be divided, ethnologically, into three great classes. The first of these, which may be called the North American Indian class, comprises the wandering and settled Chookchees and Koraks. They live in that part of Siberia lying between the 160th meridian of east longitude and Behring's Straits. A part of them are settled along the seashore, but the most are nomadic, wandering from place to place to provide food for their large herds of reindeer, the only species of property which they own. Wherever they stop for a time they pitch their deerskin tents, and remain there until the reindeer have eaten all the moss within the radius of a mile from their encampment, and then move to fresh ground. For convenience they usually associate themselves in bands, but they acknowledge no governing head, and are wholly independent of civilization. They much resemble the North

American Indians in appearance and in disposition. They are bold and self-reliant, as well as vigorous and athletic, and constitute the only Siberian tribes that have successfully withstood Russian aggression. The second class includes the tribes that are of Chinese origin, known as the Tongoos, the Lamootkees, the Monzhurs, and the Gilyaks of the Amoor River. These tribes are found as far west as the Yenesei and as far east as longitude 169 degrees. They are generally nomadic, raising many reindeer which they train for riding and carrying packs, while the Koraks only use them for drawing sledges. These Mongol tribes are of mild and amiable disposition, and easily influenced. They have almost universally professed the Greek faith, and acknowledge subjection to the Czar, to whom they pay an annual tribute of furs. The third great class of natives is said to be of Tartar origin, and uses a language closely allied to the Turkish. This class comprises the Yakoots, the most thrifty tribe of Siberia, all more or less civilized by contact with the Russians, and all claiming allegiance to the Greek faith. They are settled chiefly along the Lena River, and live by cultivating grain and raising horses and cattle. Besides these aboriginal tribes, there are three others showing striking peculiarities, which live in the Kamtschatkan country. These are the Kamtschadals, the Chooanacs, and the Yookaghirs, but of these the merest fragments of tribes are left, of whom only a few individuals retain any knowledge of their original languages, so completely have the majority of them been absorbed into the Russian colonies. For purposes of general government, Siberia has been divided by Russia into two great divisions, each of which has a military governor general—appointed by the Czar, who is also commander-in-chief of the troops, and has control of all affairs, civil and military. Each division is also further divided into minor governments and provinces, each of which has also a civil governor, and other officials, all directly appointed by the Russian Government.

#### FIFTY-NINTH INDIANA INFANTRY.

COLUMBIA, Iowa.

Give account of the Fifty-ninth Indiana Volunteers, the battles they fought in, and number of soldiers they lost in the war. Also give the number of their brigade and division, and list of regimental officers.

S. P. MOORE.

*Answer*—The Fifty-ninth Indiana Infantry was mustered in Feb. 11, 1862, and almost immediately sent to join Pope's army. It shared in the movements made by that army in Missouri, and took part in several skirmishes, but its first regular battle was the second battle of Corinth. During the remainder of the year it had much marching and countermarching, always in pursuit of some active Confederate general. In March, 1863, it took part in the Yazoo River expedition, and then crossed the river to join General Grant's movement against Vicksburg. It was in the battles of Raymond, Champion Hills, Jackson, and Black River Bridge, and took active part in the work on the trenches before Vicksburg. In the assault of May 22 it had

130 men and officers killed and wounded. Sept. 13 the regiment was sent to Helena, Ark., and later was ordered thence to Chattanooga, where it arrived just in time for the battle of Mission Ridge. It was then sent to Bridgeport, Ala., then to Huntsville, where it went into winter quarters, and here re-enlisted in January. In March it took veteran furlough, and in April was back at Huntsville again. It was moving about, guarding bridges on the Etowah, into Tennessee after Wheeler's cavalry, then to other points, till it joined General Sherman's army, just starting on its "march to the sea." It went to Washington to take part in the grand review; then to St. Louis, where it was mustered out July 17, 1865. The Fifty-ninth lost 793 men in killed, wounded, and missing during the war, and in its many movements marched 13,679 miles. It was first attached to Colonel Worthington's Brigade, then to General Buford's; in Grant's army it was in the First Brigade, Seventh Division, Seventeenth Army Corps; when at Bridgeport it was transferred to Third Division, Fifteenth Army Corps. Its officers were Jessie I. Alexander, Colonel; Jeff K. Scott, Lieutenant Colonel; Elijah Sabin, Major; James W. Archer, Adjutant; James M. Alexander, Quartermaster; Dudley Rogers, Surgeon.

#### NINETY-SEVENTH NEW YORK INFANTRY.

CHICAGO.  
Give a brief sketch of the Ninety-seventh New York Volunteer Infantry, and names of its officers.

HARRY JONES.

*Answer.*—The Ninety-seventh New York regiment was organized at Booneville, N. Y., having been raised in the counties of Oneida, Herkimer, Lewis, Fulton, and Hamilton. It was mustered in September, 1861, for six months' service, and at the end of that time, February, 1862, was mustered in again for "three years, or the term of the war." Nearly all the regiment remained with it. The battles of this regiment were as follows: Cedar Mountain, Second Bull Run, Chantilly, South Mountain, Antietam, Fredericksburg, Chancellorsville, Gettysburg, Mine Run, the Wilderness, Spottsylvania, North Anna, and Petersburg. The regiment was mustered out July 18, 1865. The officers of the regiment at the time of its organization were: Colonel Charles Wheelock, Lieutenant Colonel John P. Spofford, Major Charles Northrup, Adjutant Rouse S. Eggleston, Quartermaster Joel T. Comstock, Surgeon Nelson E. Ferguson. Major Northrup was discharged in December, 1864, and Adjutant Eggleston took his rank. In January, 1865, Colonel Wheeler, who had been made a brevet-brigadier general, died, and Lieutenant Colonel Spofford succeeded him.

#### WHAT IS LIGHT?

SOUTH WOODSTOCK, Vt.  
Tut what is known of light. Is it substance, matter, or friction?  
N. RANDALL.

*Answer.*—Two principal theories have been advocated to account for the phenomena of light, the emission or corpuscular theory, and the undulatory theory. The emission theory originated with Descartes, but was enunciated and worked out mainly by Newton. According to this theory light consists of small particles emitted by luminous bodies, its colors depending upon the

velocity of its transmission. But the undulatory theory is now generally accepted. According to this theory the space between the celestial bodies is occupied by an imponderable ether. The luminousness of a body is supposed to be due to a rapid vibratory motion of this ether proceeding from it to the eye. The waves of the light ether proceed in all directions from every luminous point, in straight lines, the motion of its particles being supposed to undulate in a transverse direction to the line in which the light travels. The velocity of light is so great that no perceptible space of time is occupied in its passage between any two points on the surface of the earth. It travels about 190,000 miles per second.

#### THE GAME OF LACROSSE.

LOUDOUNVILLE, Ohio.

Give a history of the game of Lacrosse. Is it true that it is an Indian game? How did it get its name and when was it adopted by the Canadians? Give the mode and rules of the game.  
E. L. W.

*Answer.*—There is no doubt that this game is of Indian origin. It was first seen by Europeans when the French explored the territory along the St. Lawrence river and the great lakes, in the seventeenth century. Among the Algonquin Indians the game was not merely a recreation, but a training school for young warriors, and they played it on the grassy meadows in the summer time, and on the ice in winter. They used a ball of stuffed skin, and a bat like a hickory stick with a net of reindeer hide attached to the curved part of it. The best-known Indian name of the game was baggataway. Its present name was given to it by the French settlers of Canada, because of the similarity of the stick used in the game, in shape, to a bishop's crozier. Lacrosse was adopted as a game by the white residents of Canada some forty years ago, but it did not gain much popularity till about 1860, when the Montreal Lacrosse Club was organized. The game was first played in England in 1867, when a gentleman of Montreal took eighteen Indian players, of the Ojibway tribe, thither, who played it before large assemblies. The result was the organization of a number of lacrosse clubs in England and Scotland, and the game is now very popular there. It was first introduced into the United States about three years later, and the first club in this country was the Mohawk Lacrosse Club of Troy, N. Y. In 1879 the National Lacrosse Association was organized here. It would be impossible, in our brief space, to give any synopsis of the rules of the game, these must be learned from a book on the subject, but we will outline briefly how the game is played. There are twenty-four contestants, twelve on each side, with the captains (not necessarily players) two umpires and a referee. The twenty-four players are each provided with a crosse. The two captains are not allowed to carry a crosse, their official work on the field being simply to "coach" the players. At each end of the field of play stands a goal, consisting of two posts, six feet high and six feet apart. These goals must be at least 125 yards apart, otherwise there is no restrictive rule on the length or width of the field. The Indians used a



much larger field than any used in the game as adopted by white ball-players. The ball, which is of rubber, should weigh not over four ounces nor measure more than eight inches in circumference. The theory of the game is merely that each side strives to send the ball through the goal of the other side, and the side that does this the most times within a specified period wins the match. The players on each side stand at certain fixed points. The ball must not be handled in any way; it must be picked up, carried, and thrown only by means of the crosse. This implement, as now used, is a bent stick covered with netting.

#### THE FALKLAND ISLANDS.

Give description and history of the Falkland Islands. ALENA, M. T.  
C. B. M.

*Answer.*—The Falkland Islands lie about 300 miles northeast of the Straits of Magellan. The group numbers about 200 small islands, presenting a total area of about 6,500 square miles. The two largest islands, East Falkland and West Falkland, comprise between them more than half this surface. The island is well adapted for pasturage, and the principal industry of the colony is the raising of sheep and cattle. Vegetables and fruits are raised, but with little profit because of the chill climate. The coasts abound in fish, however, and at certain seasons of the year penguins and seals are killed in great numbers. There are only a few stunted trees on the islands. The temperature has an average of 53 degrees in the summer and 40 degrees in the winter. The fuel used is peat, of which enormous deposits exist. The population of the islands in 1881 was 1,543. The Falkland Islands were discovered by Captain Davis in 1592, and visited by the voyager Hawkins in 1594. They were first taken possession of by France, were subsequently ceded to Spain, and since 1771 have formed a part of the British Empire. In 1820 a colony from Buenos Ayres settled on the islands, but was broken up in 1831. In 1833 the islands were taken possession of by the English for the protection of the whaling fishery and colonized. They are the most southerly of the organized colonies of the British Empire. The possession is valuable because of the excellent harbors on the islands and their position with regard to the Pacific and Southern Oceans. The exports of the islands consist of oil, hides, tallow, sealskin, and wool.

#### NORTH AMERICAN REVIEW.

Who founded, and when and where, the *North American Review*? Who have since been its editors? SIOUX CITY, Iowa.  
G. N. SWAN.

*Answer.*—The *North American Review* was founded in Boston in 1815, by a coterie of the leading scholars of the time, prominent among whom were William Tudor, a well-known litterateur and one of the founders of the Boston *Athenaeum*, the elder Dana, and Edward T. Channing. It was devoted to criticism and purely literary topics, and was issued quarterly. Tudor was the first editor. His place was taken in 1819 by Channing—with Dana as associate editor—who had charge of the periodical until 1821, and was succeeded by Edward Everett. In 1823

Jared Sparks became sole proprietor and editor, and controlled the journal until 1829, when his place as editor was taken by Alexander Hill Everett, who also was controlling owner of the review until 1835. The succeeding editors were J. G. Palfrey from 1835–43; Francis Bowen, 1843–54; Andrew P. Peabody, 1854–62. James Russell Lowell, with Charles Eliot Norton, undertook the management of the magazine in 1863. Norton withdrew in 1868, but Lowell continued to hold the position until 1872, when he was succeeded by Henry Adams. During all these years the quarterly constantly maintained a high character both for style and critical ability. Its standard was far above any other publication ever attempted in this country; was too high, in fact, for except within a small circle of persons of exceptional scholarly tastes, it found no readers, and for many years was scarcely able to sustain itself financially. In 1890, its proprietors being unwilling longer to continue it as a high-class review, it was purchased by D. Appleton & Co., New York publishers, was transformed from a quarterly into a monthly, and Allen Thorndike Rice was installed as editor. The purely scholarly tone of its matter was abandoned, and it was brought down to the level of good, popular reading. Since then the periodical has prospered financially. Mr. Rice has continued to be its editor, and is now its proprietor also.

#### NOTABLE STEAMBOAT RACE.

Give some facts concerning the celebrated race between the steamers Robert E. Lee and Natchez on the Mississippi River, the time made, etc. MARTIN, Mich.  
G. MONTEITH.

*Answer.*—The race between these two fine steamers from New Orleans to St. Louis created a National interest. The boats left New Orleans Thursday, June 30, 1870, at 4:55 p. m. The R. E. Lee was commanded by Captain John W. Cannon, and the Natchez by that veteran Southern boatman, Captain Thomas P. Leathers. The time made on the trip of 1,218 miles, from New Orleans to St. Louis, by the R. E. Lee, was the best on record. This steamer reached Vicksburg in 24 hours and 38 minutes; Memphis in 2 days, 6 hours, and 9 minutes, and St. Louis in 3 days, 18 hours, and 14 minutes. She arrived at the last-named port at 11:25 a. m., July 4. The Natchez came in 6 hours and 36 minutes later. The officers of the Natchez claimed 7 hours and 1 minute stoppage by fog and breaking machinery. The time made by the R. E. Lee in this trip is the best on record for the complete trip, but Mark Twain claims that the time made by the Eclipse in 1853, from New Orleans to Cairo in 3 days, 3 hours, and 20 minutes, was better, as the river was then longer. The average time of the Eclipse was 14½ miles per hour; that of the R. E. Lee was 14¼ miles per hour.

#### AN INCIDENT OF THE REVOLUTION.

Tell about the chains stretched across the Hudson River during the Revolution. BENNINGTON, Vt.  
D. P. HURLBURT.

*Answer.*—In 1776 the Committee of Safety of New York caused a chain 1,800 feet in length, with boom attached, to be stretched across the

Hudson between Anthony's Nose, on the Eastern side, and Fort Montgomery, on the western shore. Twice the river current swept away these obstructions; but a third one, constructed in the spring of 1777, endured until the capture of Forts Clinton and Montgomery in the autumn of that year by the British. It was then destroyed to clear the passage of the river for the fleet which attacked and destroyed Kingston. A similar chain was afterward placed across the river at West Point.

#### TRIAL BY JURY.

FARM RIDGE, ILL.

What was the origin of trial by jury? What governments have adopted the system, and what form is used where it has not been introduced?

ELMER BALDWIN.

*Answer.*—It is generally understood that the form of trial by jury is derived from the institutions of the Greeks and Romans. In the ancient city of Athens a number of freemen of the city were appointed, usually several thousands, from whom were selected by lot a certain number for every case to be tried at law, to hear and determine the questions that might arise in the case, under the direction of a presiding magistrate. In Rome a similar system was adopted. There, the complainant in the case came before the prætor and stated his grievance; the defendant made reply, and the prætor then referred the case to the judges to determine the facts. No specific number of these judges was required. The Romans always introduced their laws and institutions into all of their provinces, and there is evidence that their mode of judicial procedure was established among the Britons. The Saxons had another form, called the trial by compurgation. In this each party to a suit appeared with certain of his friends, and they swore with him to the justice of his case. Usually the number of compurgators was six on each side, and it is supposed that the number of the jury was thus fixed at twelve. But the Normans had a form of trial by jury, so much more like that of modern times than any legal usage of the Saxons, that historians ascribe the origin of the institution as found in England to the establishment of Norman law there by William the Conqueror. That the Saxon trial by compurgation was in a measure grafted upon the Norman usage is shown by the fact that jurors were originally chosen from those who had personal knowledge of a case, and they rendered their verdict according to their personal knowledge. Witnesses were first brought in to aid the jury during the reign of Edward III. But not until the reign of Queen Anne was it distinctly provided by law that those who had evidence to give, must be sworn as witnesses and could not serve as jurors. From England the form of trial by jury was brought to this country by the colonists and cherished as one of their most valued institutions. It was in general use during the colonial period and is protected by mention in the federal constitution and in the constitutions of most states. In Scotland the jury seems to have been established at a very early date, but it was soon after discontinued in civil cases. The Scotch jury has always

consisted of fifteen, a majority of whom may render a verdict. The jury in civil cases was reintroduced into the country in the time of George III. Nine of the twelve jurors may there render a verdict, and if the majority can not agree upon a verdict within six hours they are discharged. In Ireland the jury is substantially the same as in England, but the repression-of-crime bill passed in 1882 provided for the trial of certain cases without juries. In France trial by jury in all criminal cases was established in 1790, but now a jury is not granted except in cases of felony. A majority of the jurors can render a verdict. There is no grand jury, and civil cases are not tried before a jury at all. In Germany trial by jury in criminal cases was introduced early in the century. It was established in Prussia in 1819, and again by the constitution of 1848, but political offenses were withdrawn from its operation in 1851. The system was also adopted by Bavaria and Hesse in 1848, by Wurtemberg and Baden in 1849, and by Austria in 1850. In Belgium the jury has existed since the country separated from Holland, and includes within its operations political offenses and those of the press. In Switzerland all crimes against the confederation are to be tried by jury, and for other crimes each canton has its own machinery, the jury being in use for criminal cases in some of them. The jury system has been, of course, established in all the colonies of Great Britain. It is also in use in the South American republics. It was introduced into Greece in 1834, and was established in Portugal in 1837. It has also been introduced in recent times into Italy, into Brazil, and finally into Russia, where the first trial by jury was held Aug. 8, 1886, and in each of these last named countries a verdict can be rendered by the majority. In countries where trial by jury does not exist the judge both decides the case and awards the punishment.

#### CONSTRUCTIVE TREASON.

ENFIELD, N. H.

Explain the origin and theory of "constructive treason." Did not the phrase originate at the time of our Mexican war?

A. L. WILLIAMS.

*Answer.*—Constructive treason was known to the phraseology of English law long before the discovery of America. By the ancient common law of England much latitude was allowed to the judges in deciding what constituted the crime of treason. Their decisions, therefore, had created a number of offenses as constructive treasons, that is, offenses which might be construed as treason, if necessary, though without an arbitrary construction of their nature, they would not be so regarded. The inconvenience of these constructive treasons led to the passing of a statute in the reign of Edward III. about 1348, to define the crime of treason and to restrict punishment for this crime to a certain specific list of acts. Further, the statute enacted that if there should be any other cases not specified by it that should seem to be treasonable in their nature, the judge should not give sentence until the King and Parliament had decided what the nature of the crime should be judged to be, this provision being meant as a



safeguard against the indulgence by the judges in refinements about constructive treason. That they could, however, evade restraints of the law by arbitrary constructions is shown by the conviction of Algernon Sidney on a paper of purely speculative nature found in his closet, and of Peacham through the evidence merely of a sermon which he had never preached. But there have been few, if any, judges since the infamous Jeffreys, who have dared to indulge in the privilege of a conviction for "constructive treason."

#### THE GREELY EXPEDITION.

CHAMPAIGN, Ill.  
Give a history of the Greely expedition to the North Pole.  
FORNEY WINGARD.

*Answer.*—The Greely expedition was undertaken in pursuance of a plan of the International Geographical Congress, for the establishment of a number of circumpolar stations for scientific observation. The appropriation for the expedition was made by Congress in March, 1881. Lieutenant A. W. Greely was appointed to take command of the party, which was composed of three officers of the army, one acting surgeon, and nineteen enlisted men. Lieutenant Greely received his instructions in April, 1881, and July 7 following sailed from St. Johns, N. F., on the steamship *Proteus*, taking materials for a house, and stores for twenty-seven months. The station chosen for the party was at the head of Lady Franklin Bay, at about the 80th parallel of north latitude. Here the house was put up, the stores landed, and here, Aug. 18, the *Proteus* left the party to its Arctic isolation. The station received the name of Fort Conger, and scientific observations were begun and carried on systematically during all the time that the party stayed. The long winter was passed in taking observations, in military drill, and such amusements as the men were able to invent to while away the time. The sun disappeared Oct. 15, and was absent 135 days. As soon as the weather would permit in the spring, the work of geographical exploration was begun. In April, Lieutenant Lockwood and three others made an expedition to the north coast of Greenland, and succeeded in reaching the northernmost point ever reached by man, which they called Lockwood Island, latitude 83 deg. 24½ min. north, longitude 44 deg. 5 min. west, on the 13th of May. Vegetation was but scanty in this extreme latitude but many traces of animal life were found. Several other expeditions were made during the summer. A vessel from home was anxiously looked for when Lady Franklin Bay was clear of ice in mid-summer, but none came and by September the hope of relief was given up, and the party settled down to a second long winter in their quarters. This was passed much as the first had been, and in the spring preparations were made to leave their station and retreat southward. An attempt was first made to explore the north coast of Greenland further, and a party started on the ice for that purpose, but was driven back by open water. Two other brief trips were made, one into the interior of Grinnell Land and one to the northwest, and then when the bay had been open for some

time, but no sign of relief vessel appeared, the entire party left the camp in their boats Aug. 9, 1883. They left most of their provisions there, in case they should be obliged to return, and relied mainly for future supplies on what they should find deposited by previous relief expeditions. They found food cached at Baird Inlet, Cape Cracroft, and Carl Ritter Bay, and other points. They found the passage through the floating ice both difficult and dangerous. They had to abandon their boats, and were for nearly thirty days adrift on an ice floe. They landed on the north side of Baird Inlet and made their way along the shore to a point near Cape Sabine, where they established a camp and built a rude hut, covering it with an old whale-boat found there and banking it up with snow, for they had so little fuel that they dared not use it for anything but to warm their food; and the only light they had was a wick dipped in seal oil. From Nov. 1 the rations were reduced to less than fifteen ounces per day, and their scanty supplies were eked out by killing a few foxes and ptarmigan from time to time. The long Arctic winter was inexpressibly dreary, though the men made heroic efforts to keep up their cheerfulness. The provisions gave out wholly May 14, and from that date till rescued the party lived upon boiled strips from their sealskin clothing, lichens and shrimps, caught in good weather when they were able to make the exertion of procuring them. As it took 1,300 shrimps to fill a gallon measure, the labor required to get them made them a poor dependence for food. The relief vessels reached the camp June 22, finding only seven of the members of the expedition alive. The others had all perished of cold, exposure and lack of food.

#### ONE HUNDRED AND FORTY-SEVENTH NEW YORK INFANTRY.

CHICAGO.  
Give a short account of the One Hundred and Forty-seventh New York Volunteer Infantry, with list of its officers.  
C. S. PECKHAM.

*Answer.*—The above regiment was organized at Oswego, N. Y., for three years' service. Its soldiers were all enlisted in Oswego County. It was mustered in Sept. 23, 1862. Its list of battles is given as follows: Chancellorsville, Gettysburg, Mine Run, Spottsylvania, the battles of the Wilderness, and those before Petersburg. The first officers of this regiment were—Colonel S. Shannon, Lieutenant Colonel J. G. Butler, Major F. C. Miller, Adjutant Dudley Farling, Quartermaster B. F. Lewis, Surgeon Algernon S. Coe. The regiment was mustered out Jan. 7, 1865.

#### THIRD MICHIGAN CAVALRY.

LEADVILLE, Col.  
Give a sketch of the Third Michigan Cavalry, with regimental officers.  
L. M. GRIMES.

*Answer.*—The Third Michigan Cavalry was organized at Grand Rapids, and left this place Nov. 28, 1861, with 1,163 men. It was encamped during the following winter at Benton Barracks. With the opening of the spring it was sent forward, and during the entire year, 1862, was kept in action. It bore part in the battles of New Madrid, Farmington, Island No. 10, the siege and battle of Corinth, Iuka, and Holly

Springs, and many minor fights and skirmishes. During 1863 it was also skirmishing much of the time, and was in many engagements, including those of Granada, Wyatt's Ford, Elliston, and others, and captured many prisoners. In January the regiment re-enlisted and went home on veteran furlough. On its return it was kept on provost duty at St. Louis two months, waiting for equipments. When equipped the regiment went to Arkansas, and was engaged in scouting till Nov. 1, when it went into winter quarters at Brownsville. March 14, 1864, it was sent to join General Canby in operations against Mobile. After the fall of that city it was on outpost duty till the following May, when it went to Baton Rouge. In June it was sent to join General Sheridan in Texas, was stationed at San Antonio till Feb. 15, 1865, when it was dismounted, mustered out, and sent home. The officers of the regiment in 1864 were J. R. Mizner, colonel; Gilbert Moyer, lieutenant colonel; W. S. Burt, major; W. Jesse Buchanan, adjutant; Adrian Yates, quartermaster.

#### EARLY SETTLEMENTS IN THE CAROLINAS.

HUNTINGDON, Tenn.  
Give some account of the first settlements in the Carolinas. Was not a colony planted there which was quite exterminated before another ship from Europe visited it?

L. L. H.

Answer.—The first discoverer of the Carolina coast was Jean Ribaut. With an expedition he landed at Port Royal in 1562, built a fort and named the country Carolina after Charles IX., then king of France. Thirty men were left to form a settlement and the others returned. This little colony found life in the wilderness so unbearable—being without food and in constant terror of the savages—that they built a rude vessel and embarked again for their native land. After enduring great suffering, they were picked up by an English vessel and restored to their homes. A colony was planted at Roanoke Island in 1585, by Sir Walter Raleigh, this island being then included in the territory of Virginia. Instead of tilling the ground the settlers searched for gold, and finding none, became discontented, and were only too glad to return to England with Admiral Drake, who happened to touch at the island in one of his adventurous expeditions. Another colony was sent out in the following year (1587). This consisted of a number of families, and had great hope of prosperity and permanence. Upon the site of the former settlement the colonists founded a town which they called the City of Raleigh. Here was born the first child of English parents on the soil of the United States—Virginia Dare, the granddaughter of John White, the governor of the colony. White went back to England in the autumn to bring out supplies and more colonists. He found that country in a state of great agitation over the threatened invasion of Spain, and it was three years before he could get the supplies he needed and return to his colony. When at last the long-delayed ships sailed into the harbor of Roanoke Island, all was found silent and deserted. Not a trace of the colonists remained except the word "Croatan" carved on the bark of a tree. It was supposed that the colonists

had taken the material of their houses and built a ship and sailed for an island off the South American coast, which had received the name of Croatan. Appalled by the desolation which they found in place of a thriving colony, the intending settlers all returned to England in the ships. Sir Walter Raleigh sent out more than one vessel to search for the missing colony, but in vain; the fate of the "lost colony of Roanoke" ever remained a mystery. It is most probable that the vessel they embarked in was wrecked and all found graves in mid-ocean. The first permanent settlement in the Carolinas was made about 1648 by some religious refugees from Virginia, who pushed their way through the wilderness and founded a colony near the mouth of the Chowan River. A colony from New England also landed and made a clearing on the banks of Cape Fear River about 1660, but abandoned it soon after, and subsequently a company of English settlers from the Barbadoes settled at the same point. In 1663 Charles II. granted the territory south of Virginia to Lord Shaftesbury and seven others, who planned to establish there a great and powerful state. It was for this colony that John Locke drew up his famous "grand model" of a constitution, which the reader will find described at length in Our Curiosity Shop book for 1885. The colonies sent out settled at various points at first, the two chief settlements being the Cape Fear and Albemarle colonies. In 1680 the site of Charleston was chosen, and soon this became a thriving city and the center of an important trade. About this time the French Huguenots, fleeing from persecution in their own country, came over and settled in great numbers. These young colonies had much trouble from frequent incursions of their Spanish neighbors in Florida; and internal dissensions on account of the unpopular government of the proprietors hindered their growth and prosperity. So in 1729 the English government bought out the proprietors, divided the territory of Carolina into two provinces, North Carolina and South Carolina, and henceforth these were governed as crown colonies.

#### REPUBLICAN EX-CONFEDERATES.

J. F. Hoop, Morsman, Page Co., Iowa: General James Longstreet went into the Confederate service in 1861, after having resigned his office as Major in the United States army. He served the Confederacy actively during the war, was severely wounded, and was a member of the last council of war held by Lee in the woods on the night of April 8, 1865. At the conclusion of the war he was among the first of the rebel leaders to avail himself of the proffered amnesty. He took up his residence in New Orleans, engaged in civil pursuits, and exerted himself to bring about a cordial peace, acting with the Republican party. He was for a time Surveyor of the Port of New Orleans. Colonel Mosby's career resembled that of the distinguished Longstreet. He was an active officer in the rebel service, accepted the decision, became reconciled to the result of the war, labored to make others the



same, and his services were recognized. He is now an ardent Union man, and has held several offices of trust at the hands of the Republican party. David M. Key, who was Postmaster General under President Hayes, commanded a Confederate regiment during the war, and after its close was pardoned by President Johnson, when he ran for United States Senator of Tennessee, receiving 21 Republican and 24 Democratic votes out of 100 cast.

#### EIGHTY-FIFTH INDIANA INFANTRY.

Give a brief sketch of the Eighty-fifth Indiana Infantry. AVILLA, Mo.  
I. B. S.

*Answer.*—The Eighty-fifth Indiana was organized at Terre Haute, Ind., Sept. 2, 1862, with John P. Baird, Colonel. Nearly the entire regiment was captured by General Forrest at Spring Hill, Tenn., March 5, 1863, and sent to Libby Prison. The men were released March 30, and sent back to Indiana. A few months later they were exchanged and returned to the front. The regiment took part in the battles before Atlanta and in the march through Georgia. In this march it suffered a great deal, taking part in more fights probably than any other single regiment on the march. It had, in the various skirmishes in Georgia and the battles of Averysboro and Bentonville, 147 of its men and officers killed and wounded. It went to Washington for review, and was mustered out and sent home June 12, 1865.

#### HOW FIRE-CRACKERS ARE MADE.

How are fire-crackers made? Are those in this country all imported from China, or are they manufactured here? ROYALTON, Wis.  
G. E. M.

*Answer.*—The manufacture of fire-crackers is a very simple matter, but because it requires the handling of that dangerous element—gunpowder—it is only carried on in the regularly licensed establishments for the manufacture of fireworks. There are two or three establishments for this manufacture in this country, and others in England, and it may safely be asserted that but a small proportion, if any, of the instruments of destruction scattered about by the small boy on our National holiday are now brought from the Celestial Kingdom, where they were first made and used. Fire-crackers are made of strips of soft pasteboard, impregnated with some combustible or explosive material. These strips are doubled over several times, and then rolled closely around a small piece of composition; that is, powder mixed with sulphur and other things in a paste that will burn readily with a hissing sound. Usually a little pure bursting powder is put in before the composition, so that the burning of the cracker is finished by an explosion. A priming string is attached to one end. This is a cord that has been soaked in a solution of saltpeter or similar substance, so that it will burn readily.

#### FORTY-EIGHTH INDIANA INFANTRY.

Give a brief history of the Forty-eighth Indiana Infantry. ELKHART, Ind.  
COLLINS PINDELL

*Answer.*—The Forty-eighth Indiana Infantry was mustered into service Dec. 6, 1861, Norman Eddy, Colonel. It left for Fort Donelson Feb. 1, 1862, and arrived there the day of the surrender.

It was then sent to Paducah, where it stayed until May, when it was sent to Corinth and took part in the siege of that place, then marched in pursuit of Price. It was at the battle of Iuka where it was in the thickest of the fight and lost heavily; was also in the second battle of Corinth. Was quartered at Memphis during the winter and in the spring joined General Grant's army in its expedition against Vicksburg. Was at the battles of Raymond, Jackson, and Champion Hills, and was actively engaged in the trenches before Vicksburg, taking part in the assault of May 22, where it had thirty-eight men and officers killed and wounded. After the surrender it was sent to Memphis, then to Chattanooga, and was in the engagement at Tunnel Hill, then went to Huntsville, where it was encamped some time. Here it re-enlisted early in 1864, then went home on veteran furlough. After its return to the field it was employed looking after guerrillas and protecting General Sherman's lines of communication till the march to the sea began. It went through Georgia with that army, then to Washington for review, and thence to Louisville, where it was mustered out July 15, 1865.

#### THIRD OHIO CAVALRY.

Give a brief history of the Third Ohio Cavalry. POMEROY, W. T.  
Third Ohio Cavalry.  
WILLIAM CLARK.

*Answer.*—The Third Ohio Cavalry was organized in September, 1861, at Monroeville, Huron County. In February, 1862, it left Camp Dennison, and arrived at Nashville March 18, whence it was ordered to join Buell's army. On the march to Pittsburg Landing it was detached and sent to drive the Confederate cavalry from Laurenceburg, and thus did not take part in the battle of Shiloh. The regiment was stationed at various points during the summer, and in reconnaissances and skirmishes more than once met the enemy creditably. It took part in Buell's pursuit of Bragg, and was in the advance in the attack on General Kirby Smith at Shelbyville. A part of the regiment being sent under special orders to escort couriers through to Lexington and Covington, were on Oct. 20 surrounded by Morgan's guerrillas and taken prisoners. During all of this summer's campaign the first battalion of this regiment was separated from the second and third battalions. In December the parts of the regiment were re-united. It was engaged in the battle of Stone River the first two days, but on the morning of Jan. 1, left the field to escort a wagon train to Nashville. During the following six months the regiment was stationed at Murfreesboro, where it made several raids and scouting expeditions and took part in a number of sharp skirmishes. It was at the battle of Chickamauga. In January the regiment re-enlisted. On its return from furlough it was again sent to the front, and took part during the year in the engagements at Etowah, Kenesaw Mountain, Peach Tree Creek, Decatur, Jonesboro, Atlanta, Franklin, and Nashville. It took part in the Wilson raid through Alabama and Georgia, and in the chase after Jeff. Davis, part of the regiment in this pursuit going through to the gulf. In the fight at Selma, Ala., the regi-

ment lost heavily in killed, wounded, and prisoners. It then went to Macon, Ga., where it turned over its horses and arms and started homeward. It was mustered out at Nashville, and Aug. 14, 1865, was paid off and discharged at Camp Chase, Ohio.

#### THIRTEENTH MICHIGAN INFANTRY.

**SCHUYLER, Neb.**  
Give a history of the Thirteenth Michigan Infantry.  
**E. T. DORAN.**

**Answer.**—The Thirteenth Michigan was organized at Kalamazoo, and left for the scene of action Feb. 12, 1862. It reached the battle-field of Shiloh at near the close of the second day's fight. It took part in the battle of Stone River, at the close of the year, which was its first serious engagement, and in which it lost 95 out of 224 men engaged. In the following summer this regiment took part in the siege of Chattanooga, and was one of the first regiments to enter the city when it surrendered. At Chickamauga, of 217 soldiers of the Thirteenth in battle, 107 were killed or wounded. Nov. 5, 1863, this regiment was organized as part of a brigade of engineers. It was in the fights of Missionary Ridge and Lookout Mountain. Jan. 17, 1864, the regiment re-enlisted. During the summer of 1864 it was stationed on Lookout Mountain, constructing military hospitals. Sept. 25, it was relieved from duty as engineers and sent in pursuit of Forrest. Nov. 7, it joined General Sherman's army and went with him on the march to the sea. April 30, it started north from Cape Fear River, was at the grand review in Washington. In June, was sent to Louisville where it was mustered out July 25, 1865.

#### ESIAS TEGNER.

**WASTEDO, Minn.**

Give brief biography of the Swedish poet Tegner. What of his works have been translated into English?  
**MORRIS.**

**Answer.**—Esius Tegner was born at Kirkerud, Sweden, Nov. 13, 1782. He was the son of a clergyman and received a liberal education at the University of Lund, where he graduated in 1802. He became soon after teacher of aesthetics and librarian of the university, and in 1812 became professor of Greek. In 1818 he was elected to the academy of sciences, and the same year completed his theological studies and was ordained. In 1824 he became Bishop of Wexio, and here resided till his death, Nov. 2, 1846. He wrote many poems, the best known of which are "Sven" (published in 1811), "The Children of the Lord's Supper" (1820), "Axel" (1821), and "Frothiof's Saga" (1825). All of these have been translated into English. The best translation of "The Children of the Lord's Supper" is that by Longfellow; the best of "Frothiof's Saga" that by Leopold Hamel, published in 1875. This last-named poem has been translated into many languages and frequently set to music.

#### SENATORS OF INDIANA.

**LEXINGTON, Ind.**

Give the appointment of United States Senators from the State of Indiana from 1850 to the present time.  
**E. B. VANDERSMITH.**

**Answer.**—The Indiana Senators in 1850 were Jesse D. Bright, elected in 1845, and James Whitcomb, elected in 1849. Whitcomb died in

1852, and John Pettit was elected to fill out the unexpired term. Bright was re-elected in 1851, and again in 1857, and was expelled on the charge of disloyalty in February, 1862. The vacancy caused by the retirement of Pettit in 1855, was not filled until 1857, when Graham N. Fitch was elected, and he was succeeded in 1861 by Henry S. Lane. On the expulsion of Bright, J. A. Wright was appointed by the Governor to fill his place, holding the office a few months until the meeting of the Legislature, when David Turpie was elected to fill out the term, at the close of which Thomas A. Hendricks was chosen as successor. Henry S. Lane was succeeded in 1867 by Oliver P. Morton, who was again elected in 1873, but died Nov. 1, 1877, before the end of his second term. Daniel D. Pratt succeeded Hendricks in 1869, and Joseph E. MacDonald followed Pratt in 1875. On the death of Morton in 1877, Voorhees was chosen to fill out his term, and in 1879 was elected for a full term and re-elected again in 1885. Benjamin Harrison was elected to succeed MacDonald in 1881.

#### THE BATTLE OF FORT SANDERS.

**WATERMAN, Ind.**

Give a full account of the battle of Fort Sanders.  
**S. S. HEATH.**

**Answer.**—This battle occurred Nov. 29, 1863, during the siege of Knoxville. This city was invested by General Longstreet, Nov. 18. An irregular fire of shelling and skirmishing was kept up for ten days, when the Confederate general, being reinforced, decided to make an assault on Fort Sanders, a small earthwork mounting six guns, on a hill near the town, and commanding the approaches to it on that side of the river. The fort was occupied by the Twenty-ninth Massachusetts, the Seventy-ninth New York, and two companies of the Second New York, and one of the Twentieth Michigan. On its front and sides had been a thick field of pine trees, which had been cut down with the tops falling in all directions, making an almost impassable mass of brush and timber. The ditch in front of the fort was ten feet deep and the parapet nearly twenty feet high. The assault was made near daylight on the 29th, by the Confederate brigades of Generals Bryan and Humphrey, and a detachment from General Wolford's command. The enemy advanced in three lines and made the attack fiercely, but in all attempts to scale the sides of the fort they failed, and were finally forced to give up the attempt and retire with a loss of about 800 in killed, wounded, and prisoners. The loss on the Federal side was estimated at less than 100.

#### THEOSOPHY.

**MERIDEN, Minn.**

Tell us something about theosophy. Is it a religion or a philosophy?  
**E. M. CHESTERFIELD.**

**Answer.**—Theosophy is really but another name for mysticism. It is not a philosophy, for it will have nothing to do with philosophical methods; it might be called a religion, though it has never had a following large enough to make a very strong impression on the world's religious history. The name is from the Greek word, theosophia—divine wisdom, and the object of



theosophical study is professedly to understand the nature of divine things. It differs, however, from both philosophy and theology, even when these have the same object of investigation. For in seeking to learn the divine nature and attributes, philosophy employs the methods and principles of natural reasoning; theology uses these, adding to them certain principles derived from revelation. Theosophy, on the other hand, professes to exclude all reasoning processes as imperfect, and to derive its knowledge from direct communication with God himself. It does not, therefore, accept the truths of recorded revelation as immutable, but as subject to modification by later direct and personal revelations. The theosophical idea has had followers from the earliest times. Since the Christian era we may class among theosophists such sects as Neo-platonists, the Hesychasts of the Greek Church, the Mystics of mediæval times, and, in later times, the disciples of Paracelsus, Thalhauer, Bohme, Swedenborg, and others. Recently a small sect has arisen, which has taken the name of Theosophists. Its leader was an English gentleman, who had become fascinated with the doctrines of Buddhism. Taking a few of his followers to India, they have been prosecuting their studies there, certain individuals attracting considerable attention by a claim to miraculous powers. It need hardly be said that the revelations they have claimed to receive have been, thus far, without element of benefit to the human race.

## NINTH INDIANA BATTERY.

MILMINE, ILL.  
Give a history of the Ninth Indiana Battery.  
J. N. T.

*Answer.*—The Ninth Battery was mustered into service Dec. 20, 1861, at Indianapolis, with Noah S. Thompson, captain. It went to Cairo in March, and was sent on to join General Lew Wallace's division. It was at the battle of Shiloh, where it fired from its six guns 1,152 rounds, had five horses killed and six men killed and wounded. It was engaged at the siege of Corinth, then was stationed at Bolivar and other points until sent to Columbus, in January, 1863. In April it was sent to Cape Girardeau, then threatened by Marmaduke, but almost immediately returned to Columbus. It went with Smith's expedition in pursuit of Forrest in December. In January was sent to Vicksburg and took part in the Meridian expedition. Thirty soldiers of the battery re-enlisted in February. It was with General Smith's Red River expedition, and took part in the capture of Fort de Russey. Was with Mower's expedition to Henderson Hill. Was stationed at Shreveport and other points and took part in various minor engagements until sent back to Vicksburg in May. Was at the fight at Tupelo, Miss. It was sent to Missouri in September, and took part in the movements of General Smith against Price. Returned to St. Louis, then to Tennessee, and was at the battle of Nashville. On the way home for the muster out of the non-veterans the steamer on which the soldiers were embarked—the Eclipse—was burned, and of the Ninth Battery sixty-

eight men and two officers were either killed or seriously injured. The remaining men of the battery were preparing for a reorganization when news came of the fall of Richmond. Further recruiting was given up, and the battery was mustered out July 26, 1865.

## THE BASQUES.

CHICAGO.  
Who and what are the Basques, and where do they live?  
N. T. MERWIN.

*Answer.*—The Basques are a peculiar race who from the earliest times have inhabited both slopes of the Pyrenees Mountains. They have a population of about 800,000, somewhat less than a fourth of this number living on the French side of the mountains and the others on the Spanish side. But though their country has been, through the ages, nominally under the control of more than one foreign power, no domination of Carthaginian, Roman, Gothic, Saracen, French or Spanish ruler, has ever really conquered this fearless people or changed in any way their peculiar characteristics. They are a robust and active race, of darker complexion than the Spaniards. Their women are beautiful and skilled in all outdoor work. They are a simple race, but proud, impetuous, light-hearted and hospitable. Their agricultural methods are rude, but they are so industrious that want is hardly known among them. They have few cities or villages, but their small dwellings are scattered over all the heights of the Pyrenees. Politically they are divided into districts, each of which chooses annually an alcalde, who is both a civil and a military officer, and a member of the supreme junta, which meets every year for deliberation on matters of general interest. Their rights are protected by written constitutions granted by ancient Spanish kings. The early history of this remarkable people is unknown; they are supposed to be the descendants of the early inhabitants of Spain before the country was invaded by the Celts. They were known to the Romans as the Cantabri. Their language, which is preserved among them in its pristine purity, is altogether different from the other languages of Europe.

## WEBSTER'S REPLY TO HAYNE.

NORTHWOOD, IOWA.  
Give an account of Webster's great speech in reply to Hayne.  
A. HANSON.

*Answer.*—In December, 1829, Mr. Foote, of Connecticut, introduced a harmless resolution of inquiry respecting the sales and surveys of the Western lands. In the long debate which followed, General Hayne of South Carolina, on Jan. 19, 1830, made an elaborate attack on the New England States. He accused them of a desire to check the growth of the West in the interest of the protective policy, and argued that the common interests of the West and South should lead them to make common cause against the tariff. Mr. Webster replied to this assertion on the following day. This first speech of Mr. Webster on Foote's resolution has been so obscured by the greatness of the second that it is seldom mentioned; but it was, in fact, one of the most effective critical retorts ever made on the floor of the Senate. Mr. Hayne was

so inflamed and mortified by it that on the following day he insisted upon Mr. Webster's presence, and for a second time spoke at length, making a bitter attack upon New England, upon Mr. Webster personally, and upon the character and patriotism of Massachusetts. He then made a full exposition of the doctrine of nullification. The debate had now drifted far from the original resolution. On the following day Webster rose and answered his antagonist in the second speech on Foote's resolution, which is now popularly known as the "Reply to Hayne." It is said that Mr. Bell remarked to Mr. Webster on this morning: "It is a critical moment, and it is time, it is high time that the people of this country should know what this Constitution is." "Then," answered Mr. Webster, "by the blessing of heaven they shall learn, this day, before the sun goes down, what I understand it to be." In his speech he set forth the National conception of the Union. Indeed, he argued that the Constitution from the outset was meant to be a National instrument and not a compact between States, an assertion not historically correct. But the great significance of the speech lay in the fact that it set forth so clearly the nature of the Union that had developed under the Constitution. This permanent destiny of the Union had come to be the popular conception, though but vaguely understood; he gave this conception life and character. "He said, as he alone could say, the people of the United States are a nation, they are the masters of an empire, their Union is indivisible, and the words which then rang out in the Senate Chamber have come down through long years of political conflict and of civil war, until at last they are part of the political creed of every one of his fellow countrymen."

#### GASOLINE.

WABEELY, Mo.

What is gasoline, and how is it made?

A. J. EVANS.

*Answer.*—Gasoline is technically known as air-gas. It is simply air deprived of its carbonic acid, and then impregnated with the vapors of very volatile fluid hydro-carbons. It was first made by passing air over benzol made from coal-tar. Several machines for its manufacture were patented between the years 1836 and 1858. The cost of benzol was then a great obstacle in the way of making this gas for illuminating purposes. It was made in small quantities and sold at about \$1.50 per gallon. But the introduction of petroleum gave a new impetus to the manufacture by rendering it possible to make air-gas at 25 cents per gallon. All machines for making this gas must include a "generator," a large vessel more or less complicated in construction, in which a quantity of liquid petroleum or naphtha is exposed in shallow trays for evaporation. A current of air is introduced which mingles with the distilled vapor and forms air-gas. This is a dangerous substance, as it bursts into flame with a sharp explosion upon contact with heat. If the generator, however, is placed at some distance from the point where the gasoline is to be used, conveying it thither in air-tight

pipes, this danger is removed. This gas is now extensively manufactured on a small scale, for the lighting of large buildings in small towns or rural districts, hotels, factories, etc. In the ordinary gasoline stove naphtha is used, being placed in a vessel elevated above the stove, and the vapor for burning is conveyed downward into the stove. These are very dangerous contrivances unless used with great care, as the naphtha vapor, if allowed to escape, forms with the surrounding atmosphere a compound exceedingly inflammable and explosive.

#### CHICORY.

ARNOLD, Neb.

Give some account of chicory, where it grows and what its uses are.

S. E. KEENE.

*Answer.*—The chicory is a plant belonging to the same family as the dandelion. It is a native of Europe, being found wild in most continental countries, and in England in great profusion. It has become naturalized in this country, and in old settled districts of the East is often found growing wild along the roads. It naturally grows from one to three feet high, but when cultivated it grows much higher. The root is fleshy and milky, brownish yellow without and white within. The stem is branching, the leaves resemble those of the dandelion, the large flowers grow in pairs, and are of a beautiful blue color, though a rare variety has a pinkish white blossom. The blanched leaves of this plant are sometimes used as a salad, but it is principally gathered and raised for the roots, which are employed as a substitute for coffee, or in the adulteration of this article. To prepare it for this purpose the roots are dried and reduced to powder, which resembles in color ground coffee, though it has none of the flavor nor essential properties of coffee. The beverage is not unpleasant, and its cheapness recommends it to the poor. Large crops of it are raised in England for the purpose of adulterating coffee, the sale of the mixed article being legalized under the proviso that it shall always be labeled as containing chicory. It is used extensively in this country, also, without legal sanction, and is itself adulterated, in spite of its cheapness, with acorns, carrots, parsnips, beans, peas, turnips, horse-chestnuts, oak bark powder, logwood, mahogany dust, exhausted tar, and even dried livers of horses and bullocks.

#### SIXTY-FOURTH OHIO INFANTRY.

HOLTON, Kan.

Would like a history of the Sixty-fourth Ohio Infantry; also list of its officers.

BASTON ROLF.

*Answer.*—The Sixty-fourth Ohio was organized at Mansfield, Ohio, Nov. 9, 1861. In December it was sent to Louisville. It was sent with General Garfield's brigade to re-enforce the troops on the field of Shiloh, but the battle was nearly over when it arrived, and only one company succeeded in getting into action. At Perryville, also, it was held in reserve. At Stone River it was actively engaged, and of 300 who were in the fight, seventy-five were killed and wounded. It was in camp at Murfreesboro until June, when it moved southward with General Rosecrans' army. At Chickamauga it lost over one hundred men. It was then sent to aid in raising the siege of Knoxville; then returned to Chatta-



nooga, where it re-enlisted in January. Its later battles were Rocky Face Ridge, Resaca, Peach Tree Creek, the Atlanta campaign, Jonesboro, Lovejoy Station, and also Franklin and Nashville. It was in camp at Huntsville for several months; then was taken to New Orleans. It was in the latter city three months, till September, and was then sent on to Victoria, Texas, and, Dec. 3, was mustered out and sent home for final discharge.

#### THE GANGES RIVER.

VALPARAISO, Ind.

Tell something about the Ganges River, its physical features, the country through which it flows, and the people living on its banks.

G. B. D.

*Answer.*—The Ganges is the largest river of British India. It rises in the Himalaya Mountains and flows south and east into the Bay of Bengal. It is nearly 1,600 miles long. It has its source in the River Bhagirathi, which has its spring in a Himalayan glacier near latitude 30 deg. 54 min north, longitude 79 deg. 7 min. east, at an elevation of 13,800 feet above the sea. This stream rushes downward, a fierce mountain torrent, for a distance of ten miles, during which its fall is over 3,500 feet. Here is found the first work of man on its banks, the sacred Hindoo temple of Gangotri. When the Bhagirathi is joined by the Aluknunda, 120 miles from its source, the united waters take the name of the Ganges. From the temple of Gangotri to Hurdwar this stream descends 9,276 feet in 157 miles, or nearly sixty feet to a mile. At Hurdwar begins the great plain of India. The river now flows to the southeast 488 miles to the city of Allahabad, with a fall of twenty-two inches to the mile. From Allahabad it pursues a winding course eastward 563 miles, with a fall of five inches to the mile, to the head of the delta. During its course the Ganges is joined by a number of important streams. The head of the Ganges delta is 216 miles from the mouth of the river. Here one large arm is thrown off, flowing southward. Further on, two more branches are thrown off, all on the west side of the main stream, and these three offshoots unite about 100 miles from the sea, to form the Hoogly, the river on which the great city of Calcutta is situated. The main stream, still called the Ganges, continues to flow to the southeast, sending out other delta branches until, after partly mingling its waters with those of the Brahmapootra, it empties into the Bay of Bengal. The width and depth of this river vary greatly in different seasons, being very low in the dry and very high in the rainy season. The course and current of the river are extremely subject to change, new channels being continually excavated and old ones filled up. The whole delta is inundated at the annual rise of the river. The Hoogly is the only arm of the river that large ships can ascend, but between the head of the delta and Allahabad, vessels of light draft can ply nearly the entire year. The Ganges is the main artery of the river system which drains the Himalayan Mountains. Of the twenty affluents which feed the river twelve are said to be larger than the Rhine. Considered as a whole, the plain of

the Ganges is one of the finest and most fertile countries in the world. Above Allahabad, however, the river has but two important branches and a permanent system of canals has been constructed, having a length of 3,078 miles, and watering 767,000 acres of land. The occupation of the inhabitants of the Ganges plain is principally agriculture. The plain is one of the great wheat-growing countries of the world. The Ganges occupies an important place in Hindoo religion, and Hindoo mythology abounds in legends and symbols concerning the river and the ancient gods. The river is still worshipped by the people as the goddess Ganga. Its waters are regarded as sacred, and are conveyed to all parts of India for use in ceremonial ablutions. The dying are often carried a great distance to the shores of the river, as it is thought that a mortal who dies in sight of the sacred Ganges will be transported directly to the regions of happiness.

#### PAPER PULP AND ITS USES.

LOGAN, Kas.

How is paper pulp made? Of what is it made, and to what uses is it applied?

PAPYUS.

*Answer.*—Paper pulp can be made from any substance containing vegetable fiber. The principal materials used are cotton and linen rags, waste paper, straw, esparto grass, wood, cane, jute, and manilla. But besides these, scores of other substances in the vegetable world have been used for the purpose with more or less success. One of the recent discoveries of modern science is the manufacture of a very fine quality of pulp from the thick leaf-stalk of the giant cactus, which grows in forests on the arid plateaus of Arizona and Southern California, and has hitherto been regarded as wholly without value for any use of man. Rags are made into pulp by first washing, then boiling for about ten hours in an alkaline solution. They are then put into the hollander engine, which is an oblong vat having in the middle a cylinder with blunt knives all around its surface and beneath it a block covered also with blunt knives. This cylinder makes about 150 revolutions a minute. Water runs into the vat at one side, and flows out at the other side with equal rapidity. Meanwhile the rags are carried by the flowing water around the cylinder which is placed near enough to the block to separate their fibers considerably in the movement. This process lasts about four hours, and the rags are then drained and put for three hours in the bleaching vat, which contains a strong solution of chloride of lime, or other bleaching material, and has also a central revolving cylinder, upon a block with knives, so that the material is cut still finer in this vat also. It is then put into the beater, another vat of like construction, in which the revolving cylinder is placed so near to the block that it beats upon it in its revolution, and thus in the course of four or five hours reduces the substance to a fine pulp. Waste paper is put into boilers, through which a hot solution of soda passes continually, to remove printer's ink. It is then put through the washing, bleaching, and beating engines, just as rags are, these processes, however, in the case of

paper, occupying much less time. Straw, esparto, and other grasses are chopped fine with cutters, and then boiled with a strong solution of caustic soda, to dissolve the gummy matter on them. After this the substance is reduced to pulp in engines in much the same way as with rags. Wood pulp is made by first reducing the wood to chips, then boiling in a very strong solution of caustic soda under tremendous pressure. It is then washed and bleached as the other substances, and in the beating engine is usually mixed with a certain proportion of rag pulp, as paper made of pure wood pulp lacks cohesiveness. Cane pulp is made by what is called the Lyman process, which consists in putting the stripped cane in cylindrical boilers, and then introducing steam till the pressure of 180 pounds to the square inch is obtained. The cover of the cylinder is then removed and the escaping steam hurls the cane with such tremendous force against a surface placed thirty feet away as to reduce it to a mass of brown pulp. In this form it is used to make roofing and wrapping paper, and it is also sometimes bleached and beaten and made into white paper. Manila and jute are boiled in rotary boilers, with milk of lime, if plain brown paper is to be made; with caustic soda if a white quality is wanted. Besides the manufacture of paper, pulp from any material is devoted to a large variety of uses, such as making paste board, papier mache, boxes, boards, sheathing for vessels, boats, furniture, filling for car wheels, tubs, buckets, and other household articles. A manufactory in the East makes doors and door frames of paper pulp, also cupboards and window frames and sashes, all complete and ready to be put in their place in houses. A steamboat has been made, for experiment, entirely from paper pulp. In fact, the possible uses of this substance are too numerous to mention.

#### HAMLET, PRINCE OF DENMARK.

Give the history on which the play of Hamlet is founded.

LITTLE YORK, Nl.  
B. CALDWELL.

*Answer.*—The name of Hamlet, or Amleth, Prince of Jutland, occurs in the histories written in mediæval times, though writers are not agreed as to the period when he lived. Saxo-Grammaticus, a Danish historian of the twelfth century, gives a very complete account of this personage. According to him Amleth lived about 200 B. C. He was the son of Horvendil, hereditary prince of Jutland, and Gerutha, daughter of the King of Denmark. Horvendil was murdered by his brother Fengo, who soon after married Gerutha. Prince Amleth then feigned madness in order to save his own life. Saxo relates a number of incidents about the Prince. On one occasion, when he visited his mother, suspecting that he was watched, he began to crow like a cock and dance idiotically about the room, till he discovered one of Fengo's courtiers hidden in a heap of straw. He immediately stabbed the spy, and then so terrified his mother by his reproaches that she promised to aid him in his plan of revenge upon his father's murderer, and—according to this chronicler—actually did so. Scandi-

navian traditions confirm the existence of a prince of this name. A field is still pointed out in Jutland with a tomb bearing the name of Amleth. In the vicinity of Elsinore the place is shown where the father of Amleth was assassinated. Saxo does not mention the manner of the Prince's death, but a French writer, who, about two centuries later, translated and republished Saxo's history, says that Amleth was murdered at a banquet. This French version, translated into English under the title of "History of Hamlet," which was known in England in the sixteenth century, must have fallen under the eye of Shakespeare, as it was unquestionably the source of his tragedy of "Hamlet, Prince of Denmark." Some modern historians think that the story of Amleth is wholly fabulous, but Max Mueller, who is a very careful historical critic, thinks that such a character really existed. But the one interest of his history is found in its connection with Shakespeare's immortal play.

#### FOURTEENTH ILLINOIS CAVALRY.

Give the history of the Fourteenth Illinois Cavalry, and also a sketch of the life of Colonel Horace Capron.

MAIN CITY, Mo.

Colonel Horace  
AZOR HENRY.

*Answer.*—Recruiting for this regiment was begun in 1862, but the organization was not complete until Jan. 7, 1863. Its equipment was not completed until March 28, when it was immediately ordered to Kentucky. It was stationed at Glasgow and Celina, and was engaged in scouting through the country. When Morgan made his famous raid across the Ohio River the Fourteenth, under command of Lieutenant Colonel Jenkins, was engaged in the pursuit and capture of the bold raiders. In August it went on to Knoxville, where it captured the rear guard of the enemy and a large amount of stores. It was engaged during the following three months in skirmishing and guarding railroads and in harassing the Confederate army engaged in besieging Knoxville. After the siege was raised the regiment was engaged in pursuing and skirmishing with Longstreet's army. Jan. 31, 1864, the Fourteenth started on an expedition into North Carolina to punish a noted band of robbers known as "Thomas' Legion," composed of 100 whites and 200 Cherokee Indians. Feb. 2 the regiment came upon the robbers, attacked and completely routed them, killing 60 and capturing 56. The Fourteenth lost 4 killed and 5 wounded, among them the gallant Lieutenant Horace Capron, son of the commander of the regiment, who died three days later. On its return into Tennessee the regiment was engaged in guard and scouting duty until June, when it was ordered to join General Sherman's army. Having been attached to General Stoneman's cavalry corps, July 27 it started with that commander on the famous raid to Macon, during which occurred the terrible flight of Hillsboro, July 31. The Fourteenth cut its way through the enemy's lines in this fight, but on Aug. 3 was surprised by an attack upon its camp, in the gray dawn of the morning, and many soldiers were killed and



captured. Those who escaped fled to the woods, and made their way singly or in squads—enduring hunger and exposure and danger—slowly back through the hostile country to the Union lines. The scattered fragments of the regiment at last united, and it was sent back into Kentucky to be remounted, and then to join the force holding Forrest in check. It took part in the battles of Franklin and Nashville, and after the latter fight Colonel Capron and Lieutenant Colonel Jenkins resigned, and Major Davidson was made commander. The regiment pursued Bragg into Mississippi, then returned to Nashville. It was on guard duty only from this time until July 31, 1865, when it was mustered out of service. The aggregate of the marches made by the regiment in force—excluding raids and marches by detached companies—was over 10,000 miles.

Colonel Horace Capron was a native of New York State. He received a scientific education and was in charge of a manufactory in Maryland for some years. Subsequently he turned his attention to model farming, in which he was very successful. In 1854 he removed to Illinois, where he devoted himself successfully to the breeding of Devon cattle. After serving gallantly as commander of the Fourteenth Illinois Cavalry during the war he was made a brevet brigadier general. In 1867 he was appointed Commissioner of Agriculture; in 1871 he was invited by the Japanese Government to take charge of certain agricultural experiments and improvements in Japan, where he remained four years. Returning to this country he settled in Washington, where he died in 1885.

#### EIGHTY-FOURTH INDIANA INFANTRY.

AVILLA, Mo.  
Give brief sketch of the Eighty-fourth Indiana Infantry.  
J. B. STEMMONS.

*Answer.*—The Eighty-fourth regiment was organized at Richmond, Ind., Sept. 3, 1862, with Nelson Truslen, Colonel. It was first encamped at Cassville, Ky., then at Nashville, subsequently was stationed at Triune, Wartrace, and other points. Was engaged in scouting and skirmishing much of the time. At Chickamauga it lost 125 men in killed and wounded. It was not engaged at Chattanooga, but was in the battles before Atlanta, also at Franklin and Nashville, and afterward took part in the pursuit of Hood. It was subsequently stationed at various points till June 14, 1865, when it was mustered out and sent home.

#### TENTH INDIANA INFANTRY.

LAFAYETTE, Ind.  
Would like to know the history of the Tenth Indiana Infantry, with names of its officers.  
L. F. STOCKHOUSE.

*Answer.*—The Tenth Indiana Volunteer Infantry was mustered in for three months at Indianapolis, April 25, 1861, with J. J. Reynolds as colonel. In May Colonel Reynolds was made a brigadier general and Major Mahlon D. Manson was made colonel. June 19 the regiment started for Parkersburg, W. Va. It was at the battle of Rich Mountain, and then went into camp at Beverly, where it remained until it was sent home for muster-out in July. The men immediately re-

enlisted for the three years, and when the new organization was complete the regiment was sent to Kentucky, and was stationed at various points until the advance was made against Zollicoffer in January, 1862. It did gallant service on the battle-field of Mill Springs. It did not reach Shiloh until after the battle was over, but took part in the siege of Corinth. It was also in the battle of Perryville and that of Chickamauga, losing heavily in the latter fight. In January, 1864, part of the regiment re-enlisted. In the spring it joined Sherman's army and took part in the battles before Atlanta. In September, 1864, the veterans and recruits of the regiment were transferred to the Fifty-eighth Indiana and the non-veterans were mustered out. The transferred men went with the Fifty-eighth in the march through Georgia, and were mustered out July 25, 1865, at Louisville, Ky. The regimental officers in 1861 were: M. D. Manson, colonel; W. C. Kise, lieutenant colonel; A. D. Miller, major; R. C. Kise, adjutant; H. N. Steel, quartermaster; James S. Allen, surgeon.

#### THOMAS CARLYLE.

CARTHAGE, D. T.  
Give a brief sketch of the life and writings of Thomas Carlyle.  
F. H. A.

*Answer.*—Thomas Carlyle, essayist, historian, and philosopher, was born at Ecclefechan, Scotland, in 1795. He entered the University of Edinburgh at the age of 15, remaining there seven years. He then devoted himself to authorship, writing critical essays and biographies. About 1825 he married Miss Jane Welsh, and settled on a farm in his native county, spending most of his time, however, in writing. In 1834 he published his "Sartor Resartus" anonymously, a pretended translation from a German essay on the "Philosophy of Clothes." Under a quaint form, this work concealed much deep thought and fine writing, and soon attained a wide popularity. Mr. Carlyle now removed to Chelsea, where he resided until his death. In 1837 he published a "History of the French Revolution," in three volumes. This was much admired. In 1839 his work, "Chartism," treating of the social condition of England, was issued. In 1840 Mr. Carlyle delivered, in London, a course of lectures on "Heroes and Hero-worship," which were afterward published in book-form. In 1840 five volumes of his magazine essays were issued, under the title of "Miscellanies." His "Past and Present" was issued in 1843; his "Latter-Day Pamphlets" in 1850. In both of these he dealt with evils in social and political life. Among the most important of his later works are "Oliver Cromwell's Letters and Speeches," "Life of John Sterling," and "Life of Frederick the Great." As a reformer, Mr. Carlyle's stand was that of a conservative pessimist. He was a constant opponent of the anti-slavery movement; he denounced the extension of the suffrage in England, and bewailed the tendency of nations toward democracy. He had an unbounded admiration for successful power, and little sympathy for the down-trodden and oppressed. His earlier works, however, abounded in rich and original thought, and if his faults as a

writer were many, his merits were unquestionably of a high order.

#### "THE CURSE OF SCOTLAND."

Tell why the nine of diamonds was called "the curse of Scotland?"

MONMOUTH, Ill.  
S. M. HAMILTON.

*Answer.*—There are several reasons given for this. One story is that after the battle of Cul-loden, the "Butcher Duke" (Cumberland) wrote his order, to allow the prisoners no quarter, on the back of a nine of diamonds, and that this card subsequently received the name of "the curse of Scotland." But it is doubted whether this was the origin of the phrase, as it is known to have been in use in the early part of the century. Another suggestion is that it refers to the arms of Sir John Dalrymple, who, as responsible for the brutal massacre of Glencoe, Feb. 13, 1692, was justly held in abhorrence by all the people, and who bore on his shield a group of nine lozenges. More plausible are suggestions which refer the name to national religious prejudices. In the game of Pope Joan the nine of diamonds is called the pope, and the Pope, to the Scottish reformers, stood for Antichrist, or the embodiment of the powers of evil. Also, in the game of comette, introduced by Queen Mary, the especial winning card is the nine of diamonds, and this game was called "the curse of Scotland," because thousands of pounds were lost by it, and whole families brought to poverty.

#### THE SCHWENKFELDERS.

Give history of the Schwenkfelders, who were expelled from Prussia by Lutheran intolerance in 1734. Have their descendants any churches in Pennsylvania at the present time? OHIO, Kan.  
JOHN N. COBMAN.

*Answer.*—Kaspar Von Schwenkfeld, the founder of the sect known as Schwenkfelders, was born in the Prussian province of Silesia in 1490. He was a nobleman of ancient lineage, and became an enthusiastic advocate of the Reformation. He adopted certain views, however, concerning the deification of the body of Christ, and the admission of only holy persons to the church, which brought on him the censure of Luther and other leaders of the Reformation. He was expelled from Silesia, and, driven from town to town, persecuted by both Protestants and Romanists. His moral character was never assailed, however, by his most bitter enemies. He left numerous writings, which later came to be regarded as valuable sources of history. His followers organized a small sect, which lived mostly in Silesia. In 1734 nearly all of them emigrated to Pennsylvania, where they settled principally in Montgomery, Berks, Bucks, and Lehigh Counties. They now number about one thousand members there, and have a number of schools and churches.

#### NINETY-FIRST OHIO INFANTRY.

Give a sketch of the Ninety-First Ohio Infantry.  
BAYOU HINDO, Miss.  
W. J. VAN ZANDE.

*Answer.*—This regiment was raised in Southern Ohio in July, 1862, and in August was sent forward to Ironton, Ohio, to repel a threatened raid down the Big Sandy River. In September it was ordered to Point Pleasant, Va. It had its winter quarters at Fayetteville. In the following

summer the regiment was sent back to Ohio at the time of the Morgan raid, but did not arrive there until after the invader had been defeated at Buffington's Island. It then returned to Fayetteville, from which point it made several reconnoissances, and here also passed its second winter. In May following, it took part in an important raid into North Carolina, for the destruction of New River Bridge and of the railroad in that vicinity. A number of prisoners and stores were captured. In June the regiment went up the Shenandoah Valley with General Hunter's army. In this campaign it endured much hard marching, and was in engagements at Lynchburg, Winchester, Opequan, Fisher's Hill, and Cedar Creek. The winter of 1864-65 was passed at Martinsburg. The regiment took no more part in actual fighting, and in June returned to Camp Dennison, where it was paid off and discharged June 30.

#### THE BRITISH MINISTRY.

MANISTEE, Mich.  
Why is it necessary for the Prime Minister of England to resign when he loses a majority in the House of Commons? What are the Premier's duties, and whence does he derive his authority? Who appoints the other officers of the English cabinet, and why must they resign with the Premier? F. W. D.

*Answer.*—Formerly in the British Government the King chose a certain number of advisers with whom he conferred on all matters of State. This constituted the privy council. Its number was at first twelve, but this gradually increased until it became inconveniently large, and Charles II. cut the number down to thirty. But the Cabinet, as now known, dates from the year 1693, in the reign of William. This sovereign discovered and adopted two important principles in his government, first, that the ministry should be made up of statesmen holding the same political views; and secondly, that it must command the majority of votes in the Legislature. The working of these principles was attended with much hindrance and difficulty at first, but has now arrived at a degree of exceptional perfection. The necessity for the resignation of the Premier and the Cabinet, therefore, is founded on precedent, and this precedent has for its foundation the important constitutional principle, which demands harmony between the legislative and executive branches of the government. The Cabinet of Great Britain stands between the sovereign and parliament—it is directly responsible to the former for its management of executive business, and also responsible to parliament for its executive conduct and its legislative measures. All important measures which engage the attention of the government, and all plans of action, must be proposed and considered by the Cabinet. In its action it must be united, for when differences arise between its members the Cabinet is thereby dissolved; and its measures must meet the approval and adoption of parliament, otherwise the Cabinet must give way to those who can secure the support of the popular representatives. When a Cabinet is to be formed, the sovereign entrusts its formation to a leading statesman. He selects a certain number of prominent members of both houses who hold his political views. He usually places himself at the



head of the Cabinet as first lord of the treasury, and is popularly known as the premier, or prime minister. The other members are chosen from the government officers, who receive their official appointments from the sovereign, with the approval of the prime minister. The Cabinet always includes the lord chancellor, the chancellor of the exchequer, the secretaries of state for home, foreign, colonial, and Indian affairs, the secretary of war, and the lord president of the council, and with them are associated certain other heads of departments, generally the first lord of the admiralty, the presidents of the local government board and of the board of trade, the postmaster general, and sometimes one or more of the chief officers for Ireland. The Cabinet need not always include the same list of officials, and sometimes a person who has no government office has a seat in the cabinet because of his political influence. All the members of the Cabinet, however, must have seats in one of the Houses of Parliament, as that body has the power at any time to call in question any act of the Cabinet and demand its explanation and justification.

#### SECOND INDIANA BATTERY.

WOONSOCKET, D. T.  
Give a brief history of the Second Indiana Battery and list of its officers. C. C. Woods.

*Answer.*—The Second Indiana Battery of Light Artillery was mustered into service at Indianapolis Aug. 9, 1861. In September it went to St. Louis. It spent the winter at Fort Leavenworth, Kan., in the spring was moved to Fort Scott, and in June was sent on an expedition against the Cherokee Nation, and captured a large amount of military stores from them. It was on service at different points in Kansas during the entire year, and took part in the fights at Newtonia, Cane Hill, Van Buren, and other minor engagements. In 1863 it was part of the time in Indian Territory, and also in Arkansas, and was present at the surrender of Fort Smith. In 1864 it operated during the spring and summer in Western Arkansas. In September it returned to Indianapolis, where its non-veterans were mustered out, and its veterans reorganized the battery with recruits. It was then sent into Tennessee, and was present at the battle of Nashville, but after that was in no important engagement. July 3, 1865, it was mustered out. Its regimental officers when first organized were David G. Rabb, Captain; John W. Rabb, First Lieutenant; Hugh Espy, Jr., Second Lieutenant. When reorganized in 1864 James S. Whicher was Captain; George B. Sink, First Lieutenant; John Stewart, Second Lieutenant.

#### TWENTIETH ILLINOIS INFANTRY.

MINER, D. T.  
Would like a sketch of the Twentieth Illinois Infantry, with a list of regimental officers. P. W. S.

*Answer.*—The Twentieth Regiment was organized at Joliet by companies from different counties, and was mustered into the service June 13, 1861. Its regimental officers were: C. C. Marsh, Colonel; William Erwin, Lieutenant Colonel; John W. Goodwin, Major; John E. Thompson, Adjutant; John Spicer, Quartermaster. The first battle in which the regiment took part was that

of Fredericktown, Mo., Oct. 21, 1861. In the following February it was sent to Kentucky, and was at the battles of Fort Henry and Fort Donelson. It also took part in the fights at Shiloh and Corinth, was in the Vicksburg campaign of the following year; at the actions of Raymond, Jackson, and Champion Hills, and took part in the two assaults on the works of Vicksburg during the siege. It was with Sherman on his Meridian raid, and afterward remained in camp at Vicksburg until March, 1864, when 197 of its members re-enlisted. These, after their return from veteran furlough, with new recruits that had been added, joined Sherman's army and took part in the battles of Kenesaw Mountain, and in the battles before Atlanta, where nearly the entire regiment was taken prisoner. The total strength of the regiment was now but thirty-five men. This small remnant was mounted and employed in scouting service on the "march to the sea," till it reached Goldsboro, N. C., when it was rejoined by nearly all the former members of the regiment still living, added 250 new recruits and once more organized as a regiment. It was at the grand review in Washington, and reached Chicago June 19, 1865, for final discharge. Of the 343 officers and men that it brought home, only seventy had been in the original 924, of which the regiment was composed in 1861. But 282 perished on the battle-field and in the hospitals, the remainder including the "missing" for various causes.

#### THE SURRENDER OF HARPER'S FERRY.

MASSENA, Iowa.  
Give an account of the surrender of Harper's Ferry to the Confederates, Sept. 15, 1862.

H. L. SISLER.

*Answer.*—At the time that Lee's army began its march northward in September, 1862, Harper's Ferry, which commanded the entrance into the Shenandoah valley from the north, was garrisoned with 9,000 men under Colonel Miles, of the Second United States Infantry. Lee expected that this small force would not attempt to hold the point against his large army, but would beat a hasty retreat. McClellan, also, as soon as he knew of the northward movement of the Confederates, perceived that Colonel Miles' force was of no use where it was, since it could not hold its position if attacked, and he telegraphed to General Halleck suggesting that Miles be ordered to evacuate his position immediately and join the main army. This was on the 11th, and Lee had not yet reached the Potomac; but Halleck, sharing in the general Washington scare at that time, assumed that Miles was already in the trap, and said his only chance was to defend his works until McClellan could open communication with him. It seems to have been within the possibilities for McClellan to have hastened forward a part of his army, at least, so as to intercept the advance of Jackson's army into Maryland; but it would have been very difficult and was not attempted. Sept. 4 Colonel Miles sent part of his force, under Colonel T. H. Ford, of the Thirty-second Ohio, to occupy Maryland Heights, the hills at the southern end of the Elk Ridge on the Maryland side of the

river, directly opposite Harper's Ferry. Tools, however, for constructing available fortifications were wanting, and only a few slight breastworks were thrown up. Sept. 5 the advance of General Jackson's army appeared, and, on the same day, Colonel Miles was re-enforced with nearly 4,000 men under General White, who had evacuated the Federal position at Martinsburg on the approach of the enemy. With this force, entrenched on Maryland Heights, Miles might have held out against an opposing force far greater than his own for an indefinite time, but he seems to have been utterly wanting in the military genius needed to perceive this fact. The Confederate force made an attack on these heights on the 13th, but were repulsed. Colonel Miles had given Colonel Ford discretion to hold or abandon the heights, as he might think best. Subsequently he sent an order to him to hold his position at all hazards. Ford, however, chose not to understand the latter order, and about midday decided to abandon the heights. The Federal troops were now massed in Harper's Ferry and on Bolivar Heights, in the rear of the town. Maryland Heights were immediately occupied by the enemy under General McLaws, who within a few hours had his guns in position so as to cut off all retreat from Harper's Ferry on the east. On the same day General Walker (Confederate) took possession of Loudoun Heights, on the Virginia side of the Potomac, and proceeded to place his force so as to prevent the escape of the Harper's Ferry garrison down the right bank of the river. Jackson's army had intrenched itself on the 12th at Halltown, about two miles from Harper's Ferry. By these movements of the Confederate commanders the Federal force at Harper's Ferry was surrounded and at the mercy of the enemy. On the 13th, however, Colonel Miles sent a messenger to General McClellan, telling him that the enemy had occupied the positions on the heights, and adding that he could hold his position for two days at least. It is difficult to understand how Colonel Miles could have had so little appreciation of the peril of his situation as to fancy that he could make any defense whatever. Sept. 14 Jackson placed the division of A. P. Hill in the rear of the Federal line of defense. Ewell's division moved along the turnpike road to support Hill. Jackson's own division secured with one brigade a commanding hill to the left, near the Potomac. During the night the Federal cavalry troops, about 2,000, under Colonel Davis, of the 12th Illinois regiment, escaped across the Potomac on a pontoon bridge, and made their way northward, reaching Greencastle, Pa., in safety the next morning. The infantry officers also urged Colonel Miles to make the attempt to cut their way out under cover of the darkness, but he refused, saying that he was ordered to hold the Ferry to the last extremity. During that night, also, the Confederates had placed seven batteries in advanced positions, and had taken seven guns across the Shenandoah and placed them where they could have an enfilade fire on the Federal line. Early on the morning of the 15th every Confederate gun opened

fire. In about two hours the Federal guns were silenced and the white flag was run up. At almost the moment of giving the signal for surrender Colonel Miles was mortally wounded with a fragment of a bursting shell. General White conducted the capitulation, by which 11,000 men and officers, with seventy-three pieces of artillery, many small arms, and other stores, passed into the hands of the Confederates. In the latter part of the year the circumstances of the surrender were examined by a court of inquiry at Washington, and in accordance with its decisions Colonel Ford and several other officers were dismissed from the United States army. This court also characterized Colonel Miles' conduct as exhibiting "an incapacity amounting almost to imbecility."

#### FOURTH MICHIGAN CAVALRY.

MANCHESTER, Iowa.  
Give a history of the Fourth Michigan Cavalry, with list of officers. What amount of money was offered for the capture of Jeff Davis?  
D. C.

*Answer.*—The Fourth Michigan Cavalry was organized at Detroit and mustered into the United States service Aug. 29, 1862, and was immediately sent to Louisville. It was in the attack on Morgan at Stanford, and was subsequently stationed at Nashville. From the opening of the year 1862 the Fourth Cavalry was in continual action, scouting, skirmishing, taking prisoners and stores, and sharing in nearly all the important battles of the West. During 1863 the regiment marched three thousand miles. Through the winter of 1863-64 part of the regiment was kept on duty and part went into camp at Huntsville, Ala., but were moved in December to Pulaski, Tenn. The campaigning of 1864 was nearly as active as during the previous year. Oct. 31, 1864, the regiment was dismounted and sent to Louisville to equip. At the end of December it went on duty again with new horses and equipments. Part of this regiment, under Lieutenant Colonel Pritchard, captured Jefferson Davis near Irwinsville, Ga., May 10, 1865. A reward of \$100,000 had been offered for this capture. The officers of the Fourth Cavalry in 1864 were: Colonel R. H. G. Minty, Lieutenant Colonel B. D. Pritchard, Major Josiah B. Park, Adjutant T. M. Henion, Quartermaster W. C. Arthur. This regiment is said to have taken part in ninety-two battles and skirmishes.

#### THE LONDON MONUMENT.

CHICAGO.  
Describe the great Monument of London, and tell why and when it was built. How many suicides have been committed there?  
R. T. WILSON.

*Answer.*—The Monument of London was built by Sir Christopher Wren in 1671-7 to commemorate the great London fire of 1666, which laid in ruins 432 acres of the most closely-built portion of the city. It is placed about two hundred feet from the spot where the fire first began in Pudding Lane. The pedestal of the monument is 40 feet high, and the whole structure 202 feet. Until the building of the Washington monument, the London monument was noted as being the loftiest isolated column in the world. It was erected at an estimated cost of £14,500. The staircase leading to the top of the column has 345



steps. There were originally four inscriptions on the Monument—three in Latin, and the following words in English: "This pillar was set up in perpetual remembrance of that most dreadful burning of this Protestant city begun and carried on by ye treachery and malice, of ye Popish faction, in ye beginning of September, in ye year of our Lord, 1666, in order to ye carrying on their horrid plot for extirpating ye Protestant religion and old English liberty, and ye introducing popery and slavery." It is needless to say that the charge here made was wholly without foundation in fact and justly provoked the indignant lines of the poet Pope—

"Where London's column, pointing to the skies,  
Like a tall bully lifts its head and lies."

This inscription was cut on the monument in 1681. It was obliterated by James II., was recut in the reign of William and Mary, and finally erased by order of the Common Council of London Jan. 26, 1831. There are six suicides by leaping from this Monument recorded, two in the eighteenth and four in the nineteenth century. To prevent these occurrences a high fence was placed around the railing of the gallery in 1839.

#### VASSAR COLLEGE.

BISHOP HILL, ILL.

Give a brief history of Vassar College, when founded, etc.

K. JOHNSON.

*Answer.*—Vassar College is on the east bank of the Hudson, near Poughkeepsie, N. Y. It was founded in 1861. In that year Matthew Vassar, a wealthy brewer of Poughkeepsie, gave to an incorporated board of trustees the sum of \$403,000 and 200 acres of land for the endowment of a college for women. The building was constructed from plans approved by him, at a cost of about \$200,000. The college was opened in September, 1865, with eight professors and twenty other instructors, and 300 students. The first President of the college was Professor Milo P. Jewett; the second, Dr. John H. Raymond; the third, the Rev. Samuel Caldwell. The college has a fine library, with scientific apparatus and a museum of natural history specimens.

#### FIFTY-FIRST OHIO INFANTRY.

WYMORE, Neb.

Would like a complete sketch of the Fifty-first Ohio Infantry.

JOHN WOLFE.

*Answer.*—The Fifty-first Ohio was organized at Camp Meigs, near Canal Dover, Ohio, and was mustered in Oct. 3, 1861. In November it was sent to Louisville, and thence went to join General Nelson's brigade. During the summer it was on provost-guard duty at Nashville, and its first engagement with the enemy was in a sharp skirmish at Dobson's Ferry, Nov. 9, 1862. At Stone River it was skirmishing during the first two days of the battle, but on the third day took part in a fierce conflict, in which it had 183 of its number killed, wounded, or captured. It was at Chickamanga also, in the storming of Lookout Mountain, and in the taking of Rossville Gap at Mission Ridge. Jan. 1, 1864, it re-enlisted. Its subsequent engagements were: Resaca, Kenesaw Mountain, the Atlanta Campaign, Jonesboro, Lovejoy's Station, and Nashville. After the pur-

suit of Hood had been abandoned it went into camp at Huntsville. In the spring it went to Nashville, and was sent thence to Indianola, Texas, arriving there July 25, 1865. Oct. 3 following it was mustered out at Victoria, Texas, and sent home for discharge.

#### THE INDIAN MUTINY.

CHICAGO.

Give a brief account of the mutiny in British India, with loss of life on both sides.

B. R. NEWTON.

*Answer.*—Early in 1857 the smooth-bore muskets were taken from the native troops of India, and Enfield rifles substituted for them. To secure accuracy of aim with the new gun, it was necessary to use a tightly-fitting cartridge, and this was greased, that it might more easily be rammed in. The use of these cartridges excited the most intense indignation and horror among the native troops, as, in biting them their lips would touch animal fat, which was not only loss of caste, but defilement and sacrilege. There had been a fierce discontent smoldering among the troops for some time. The native princes who had been dethroned by the British, had been long endeavoring to incite a spirit of mutiny to aid them in striking a blow against British rule. It was asserted that the native religions were to be overthrown, the cherished institution of caste was to be destroyed, and the people by force or fraud made to adopt the faith of the invader. The use of the greased cartridge seemed a confirmation of these assertions, and although as soon as the feeling of the sepoys in the matter was known, the soldiers were permitted to tear the cartridges with their fingers, and later, to themselves prepare a lubricant in which they were sure there was no animal fat, the excitement had become so great nothing could allay it. At that time there were in the service of the East India Company 230,000 sepoys. The mutiny broke out first at Meerut, where the native troops massacred their officers and the European inhabitants May 10, 1857. At Delhi the same horrors were perpetrated, and the deposed king again raised his standard over the ancient palace of the Mogul. Before the end of June the sepoys had mutinied at twenty-two important stations, in most cases murdering all the Europeans that fell into their hands. Many British troops from China and Persia were sent to India to aid in suppressing the mutiny. The revolt continued to spread and fearful atrocities were everywhere committed. At Lucknow the native troops disbanded the 30th of May. The soldiers and Europeans under Sir Henry Lawrence took refuge with such arms and stores as they could secure, in the buildings of the residency, where they were soon after surrounded by the rebels and besieged. June 6 the garrison at Cawnpore was besieged by troops under Nana Sahib. After holding out for twenty days, till food and ammunition were gone, the garrison surrendered. By the terms of the capitulation all the Europeans were to be allowed to go in safety to Allahabad. However, as they were preparing to depart, the fire of the troops was turned upon them. All the men were shot, and the women

and children were some days later massacred with revolting cruelties and their bodies all thrown into a large well. Two days after this, July 16, General Havelock, with his soldiers, retook the city. The sepoys received little mercy when the traces of their horrid cruelties were found, as might be supposed. General Havelock drove the rebels on to Bithoor, here defeated them in a battle, and now being joined by Generals Outram and Neill, pushed on to relieve Lucknow. He fought his way into the city Sept. 25, but because of the great numbers of the mutineers he was not able to remove the troops, and remained there in a state of siege until they were relieved by Sir Colin Campbell with a large force Nov. 14, and enabled to withdraw to Cawnpore. General Havelock died here Nov. 24. Dec. 6 Sir Colin Campbell defeated Nana Sahib with 25,000 sepoys at Cawnpore. By Jan. 1, 1858, twenty-three European regiments had arrived at Calcutta, and a number of others had landed at Madras and Bombay, and other troops were added to them from parts of India where the mutiny had not broken out. During the first three months of 1858 the rebels were defeated in a number of engagements. A large force of the sepoys entrenched themselves strongly at Lucknow, and were there besieged by soldiers under Sir Colin Campbell, March 8. The place was taken by successive assaults during a siege of some ten days. The stronghold of Jhansi was stormed and taken April 2. The center of the mutiny was now at Gwalior, which was taken June 20. This was the last great battle of the war, although the rebels continued to make an obstinate resistance throughout 1858-59. During 1859, however, several of the leaders of the outbreak were taken and put to death, and by the latter part of the year 1,327 forts had been destroyed and 1,367,406 arms of all kinds had been surrendered. Of the number of Europeans massacred or killed in battle during the mutiny no accurate estimate can be formed. Hundreds of women and children were put to death with atrocious cruelties, and no quarter was granted to troops forced to surrender. The rigor shown by the British authorities in punishing the rebels was also in many cases most shocking. The most important result of the mutiny was the transfer of the government of India from the East India Company to the direct authority of the British crown.

#### NOMINATION OF PRESIDENT LINCOLN.

1. Who nominated Lincoln for President at the Republican conventions of 1860 and 1864? Give the circumstances. 2. Who were Lincoln's law partners?

MCUNE, Kan.  
W. H. McGUIRE.

*Answer.*—1. The nominations were made on the third day of the Chicago convention of 1860. The Wigwam, a temporary building put up for the occasion, was crowded to its utmost capacity with an audience of 2,500 people. The first name brought forward was that of Mr. Seward, who was nominated by William M. Evarts, of New York. Then N. B. Judd, of Illinois, nominated Mr. Lincoln. A newspaper account of that date thus describes the scene:

"The applause when Mr. Evarts named Seward

was enthusiastic. When Mr. Judd named Lincoln the response was prodigious, rising and raging far beyond the Seward shriek. Presently, when Caleb B. Smith, of Indiana, seconded the nomination of Lincoln, the response was absolutely terrific. The Seward men now made another effort, and when Austin Blair, of Michigan, seconded his nomination, the shouting was absolutely frantic, so that hundreds of persons stopped their ears in pain. No Comanches, no panthers, ever struck a higher note, or gave screams with more infernal intensity. Now, the Lincoln men had to try again, and as Columbus Delano, of Ohio, also seconded the nomination of Mr. Lincoln, the uproar was beyond description. I thought the Seward yell could not be surpassed, but the Lincoln boys were clearly ahead, and, feeling their victory, as there was a lull in the storm, took deep breaths all around and gave a concentrated shriek that was perfectly awful, and accompanied it with stamping that made every plank and pillar in the building quiver."

On the first ballot Mr. Seward had 173½ votes, and Mr. Lincoln 102. On the second, the record was, Seward 184½, Lincoln 181; and on the third, Seward 180, Lincoln 231½. The latter had now but one and one-half votes short of sufficient to give him the nomination. After a brief pause D. K. Carter, of Cleveland, ended the suspense by rising to change four votes of Ohio from Mr. Chase to Mr. Lincoln, and then a chorus of mighty shouts arose, "thousands cheering with the energy of insanity." At the convention of 1864, there was less doubt as to the issue, as it was generally regarded as certain that Mr. Lincoln would be almost unanimously re-nominated, and there was less excitement. On the second day of the convention, June 8, the platform was adopted. A resolution was then sent up by Simon Cameron, of Pennsylvania, declaring "Abraham Lincoln, of Illinois, and Hannibal Hamlin, of Maine, the unanimous choice of the convention for President and Vice President." The question was, after some debate, divided, and a vote on the first portion of it resulted in the nomination of Lincoln on the first ballot by 494 votes out of 516. As soon as the ballot was announced the nomination was made unanimous, amid a tempest of hurrahs. 2. Lincoln's first law partner was John T. Stuart, of Springfield, with whom he was associated from April 27, 1837, to April 14, 1841. He was then associated with Judge S. T. Logan, from 1841 to 1845. In the last-named year he formed the partnership with William H. Herndon, which continued until his election to the Presidential office.

#### THE DES MOINES RIVER LANDS.

Give history of the Des Moines River Land Case. QUICK, Iowa, D. F. FERRY.

*Answer.*—In the year 1846 a grant of land was made to the Territory of Iowa to aid in the improvement of the navigation of the Des Moines River. The language of this grant was indefinite, giving rise to conflicting decisions by the government departments as to its extent, and it was not until 1860 that the matter was brought before



the Supreme Court and authoritatively decided. The decision of the court diminished the extent of the grant from that claimed by the State; thus rendering void the titles of certain settlers who held lands there; but to set the matter right a joint resolution of Congress in 1861 transferred to the State of Iowa all the land within the larger limit, which had been taken up by bona fide purchasers. Further, in the next year, an act of Congress, of the same general purport, was passed. Cases growing out of difficulties between the settlers and the State have more than once been appealed to the Supreme Court, and the decisions of that body have always affirmed the transfer of the land from the United States to the State of Iowa and the settlers, under the act of 1862. But as settlers have had difficulty in securing valid titles from the State, bills have been brought before Congress to declare the disputed land to be United States public lands, in opposition to the purpose of the act mentioned. No one of these bills passed however, until that adopted by both houses in February, 1886, which was vetoed by the President. The ground of President Cleveland's objection was the fact that the lands had been relinquished by the United States in 1862, and that cases of disputed title to them by settlers were properly referable to the tribunals of the State of Iowa. He held also that the duty of the General Government had been fulfilled by an act passed by Congress in 1873, providing for a commission to ascertain the losses suffered by settlers on these very lands, and appropriating money to compensate them therefor.

#### THE DARTMOUTH COLLEGE CASE.

CHICAGO.  
Give an outline of the famous Dartmouth College case, and Mr. Webster's connection therewith.

R. T. SMYTH.

*Answer.*—The history of the Dartmouth College case is important, not only because the case itself, while pending, created such wide interest, but because the decision of the court concerning it had probably more effect upon American political history than any other decision that ever emanated from the Supreme Bench. Dartmouth college was founded by Dr. Eleazer Wheelock. When he died his son succeeded him in the Presidency. The Wheelocks were Presbyterians, with liberal views. After some years dissensions arose because certain members of the board of trustees were Congregationalists, with strictly orthodox views, and strongly opposed to the President. In 1809 the enemies of Mr. Wheelock secured a majority on the board, and after this admitted no friend of the President. After some years of bitter contention, in the college and through pamphlets and the columns of the public press, Mr. Wheelock determined upon legal measures, and retained Mr. Webster as counsel. He then presented a memorial to the Legislature, making certain charges against the trustees, and praying for a committee of investigation. This committee was voted by the Assembly, but the trustees of the college ignored this fact and removed President Wheelock, appointing another president. The controversy

had now aroused the interest of the entire State, and had become a party question, the trustees as staunch Federalists having on their side all their political party, as well as all the Congregational Church. On the other were united with the Democrats all other sects and those avowing no religious faith. Mr. Webster's friends had now urged him so strongly against taking ground against the Federalists, that he deserted Mr. Wheelock, and was engaged on the side of the trustees. The election now came on, and the opposition to the Dartmouth College trustees resulted in the election of a Democratic Governor and Legislature, and the passage of an act by the latter in June, 1816, providing for a reorganization of the college, virtually placing it within the control of the State. The Governor now appointed a new board of trustees. Both boards assembled; the new board gained possession of the college seal and other property, and the old board brought suit to recover these, and the matter thus came before the courts. The claim made was that the acts of the Legislature were not obligatory: 1. Because they were not within the general scope of legislative power. 2. Because they violated certain provisions of the Constitution of New Hampshire. 3. Because they violated the Constitution of the United States. It is curious that this third point, on which the decision of the case was finally given, was passed over lightly, not only by the other lawyers but by Mr. Webster also. And, oddly enough, it had first been suggested some time before by Mr. Wheelock, when he had feared that the trustees would secure the aid of the Legislature against him, and had been remembered. On this point, however, and, of course, on this alone, the case went to the Supreme Court. Though the arguments above noted were embodied in a very powerful speech by Mr. Webster, and also defended by two of the ablest lawyers in the State, the New Hampshire Court decided against them on every point. The case was then taken up on a writ of error to the Supreme Court at Washington, where the case was opened March 10, 1818, by the great speech of Mr. Webster, which has become historic in connection with the name of the case. He spoke for five hours, holding throughout the breathless attention of his hearers. This speech is often referred to as illustrating Mr. Webster's consummate art in oratory. For though he stated all the legal points with suitable force, he evidently relied for victory on appeals to the sympathies and prejudices of the judges. Very skillfully he introduced the political view of the case, depicting the college as torn from the wise rule of Federalists and the church by the unholy hands of Jacobins and free-thinkers. He described the action of Wheelock and his friends as an attempt to destroy the college, to overthrow an honored citadel of learning. Chief Justice Marshall was a most ardent Federalist, and Webster's skillful presentation of the case had won his passionate support, as the great lawyer had intended. The argument of opposing counsel seemed very poor

after the burning eloquence of Mr. Webster, and the case was closed on March 12. On the next day the Chief Justice announced that the court could not agree, and the case was continued. When court was opened for the next term, the State of New Hampshire had engaged Mr. Pinckney, who at that time stood at the head of the bar of the United States. Judge Marshall, however, had talked his associates over to his views in the meanwhile, and, immediately upon taking his seat, he announced that the judges had already come to a conclusion. He then read one of his great opinions, in which he held that the college charter was a contract within the meaning of the Constitution, and that the acts of the New Hampshire Legislature impaired this contract, and were therefore void. The immediate effect of the decision gave the college into the hands of the Federalists; but in the precedent it established its results were of far greater importance. It has been said that this decision "brought within the scope of the Constitution of the United States every charter granted by a State, limited the action of the States in a most important attribute of sovereignty, and extended the jurisdiction of the highest Federal court more than any other judgment ever rendered by them."

#### THE JEWISH YEAR.

How did the Jews compute time or divide the year? Did they use the lunar months? How long was the ecclesiastical year, or from one passover to another?  
T. W. DICKEY.

**Answer.**—The year, as used by the Jews, seems to have been instituted about the time of the exodus, though a similar division of time was apparently known in the age of Noah. Though we can not fix the characteristics of any single year from the sacred record, we know the essential points of division for years in general. There is no doubt that the year was solar, that is, it included the time of the sun's apparent revolution in the ecliptic. Had this not been so, the feast of the first fruits, when the offerings of harvest time were made, which was fixed by law at a certain time of the year, would in the lapse of a few years be thrown quite out of its proximity to the harvest season. But it is quite as certain that the months were lunar, each beginning with a new moon. There must have, therefore, been some method of adjustment, and it is known that after the captivity the custom of inserting an intercalary or thirteenth month was followed. This extra month was inserted seven times in a cycle of nineteen years. It is not known exactly how the Jews fixed the commencement of each year, but probably they determined it by the rising or setting of some star which was known to mark the right time of the solar year. The time from one passover to another therefore varied. It usually included twelve lunar months of thirty days each, but occasionally had thirteen months. The Jews, after the captivity, had two reckonings for their year, the sacred and the civil reckonings. By the sacred reckoning, which had been instituted at the exodus, the first month of the year was the month Abib, occurring about the time of the vernal equinox. By the civil reckoning the

first month was Tizri, the seventh of the sacred year, beginning at near the time of the autumnal equinox.

#### TWENTY-FIFTH OHIO INFANTRY.

Give a brief sketch of the services of the Twenty-fifth Ohio Infantry.  
WHITE LAKE, D. T.  
B. V. HOWARD.

**Answer.**—The Twenty-fifth was composed of men from all sections of the State and was organized at Camp Chase June 28, 1861, and on the following day was sent on to West Virginia. In the irregular fighting that went on in that country during the rest of the year, the Twenty-fifth Ohio bore due share, also in the battle of Cross Keys and the second battle of Bull Run. During the fall and winter it was marching from point to point until at last it settled down quietly at Brook's Station and spent the winter in drilling and preparing for the spring campaign. April 27, 1863, it broke camp and started for Chancellorsville. In the disastrous fight at this place the regiment bore heroic part, losing in the engagement seventeen killed, 120 wounded, and thirty-seven missing. At Gettysburg the list of killed, wounded, and missing in this regiment was 183. Soon after the latter battle it was transferred to Morris Island and took part in the siege of Fort Wagner. Jan. 1, 1864, it re-enlisted, went home on veteran furlough, and reached Hilton Head on its return April 26. Here the men remained during the summer, suffering much from sickness. In November, in a raid to destroy the Charleston and Savannah Railroad, such a sharp resistance was encountered at Grahamsville that the regiment lost in killed and wounded 150, of whom 16 were commissioned officers. From this time until May it was employed on several such expeditions, often suffering much in the skirmishes that ensued. After this, for an entire year, the regiment was employed on garrison duty at various points. June 6, 1865, it left by steamer for New York, thence went to Columbus, where, June 18, it was paid off and discharged.

#### MAKING SOAP.

Give a description of the method of making common laundry soap.  
BLATCHFORD, M. T.

**Answer.**—The manner of making the different grades of commercial soaps is essentially the same, though different kinds of fat may be used. It is always made on a large scale, in enormous vats or boilers. Several hundred weight of crude soda ash is first dissolved in boiling water in the soap-boiler, which is a huge circular iron vessel holding from five hundred to one thousand gallons, with a steam-pipe in the center. Half the weight of the soda in pure caustic lime is then added and the mixture boiled. When the lime has rendered the soda caustic, the boiling is discontinued. Several hundred weight of tallow is now put into the soap pan, which is a different vessel made of cast iron, to which heat is applied, either by means of a furnace beneath it, or by steam carried by pipes around the bottom of the pan. The latter is the more usual method. The pan usually holds several tons. After the tallow, cut up into pieces, is put into this pan, a



quantity of the lye is added, the steam is turned on, and the boiling continued until the lye is thoroughly incorporated with the tallow, and the whole becomes a pasty mass. Several shovelfuls of common salt are now thrown in. This causes the lye to separate, and as the mass cools, the lye, deprived of its soda, is drawn off. Fresh lye is then added and boiled, and this is repeated until the tallow is saturated with the soda, that is, it will not take up any more. Water is now added until the proper consistency is reached. If resin is to be used, it is now added, and the mass again boiled. It is then run off into frames, or molds, where it is allowed to solidify, and then is cut by wires into bars, dried, and packed in boxes. One ton of yellow soap will require 1,000 pounds of tallow and 350 pounds of resin, with lye sufficient to make the whole a smooth, perfectly homogeneous and saponaceous mass.

#### FORTY-FIRST OHIO INFANTRY.

A brief sketch of the Forty-first Ohio Infantry would much oblige a subscriber.  
SIDNEY, IOWA.  
J. T. GOODE.

*Answer.*—The Forty-first Ohio was organized at Cleveland, and mustered in Oct. 31, 1861, and about a month later reported at Louisville to General Buell, who was then organizing the Army of the Ohio. The Forty-first was made a part of the Fifteenth Brigade, General Nelson's division, and remained during the winter at Camp Wickliffe, Ky. The regiment saw its first fighting on the bloody field of Shiloh, where it lost 141 in killed and wounded. In the siege of Corinth and at the battle of Perryville the regiment was engaged in skirmishing, but at Stone River it was again in the forefront of battle, and of 410 officers and men engaged 112 were killed or wounded. During the following months the regiment had a season of comparative quiet, being in camp most of the time, occasionally indulging in skirmishing with guerillas. It took part in the battles of Chickamauga, Lookout Mountain, and Mission Ridge, in all these engagements fighting well and losing heavily. Early in January it re-enlisted. Its subsequent battles were Rocky Face Ridge, Resaca, Dallas, Peach Tree Creek, and the Atlanta campaign. In the movement against Hood the Forty-first was employed as skirmishers. It then camped at Huntsville till June, 1865, when it was sent to Texas, and remained at San Antonio till November. It was then sent home, and was mustered out at Columbus Nov. 26, 1865.

#### SEVENTH OHIO INFANTRY.

Give a brief sketch of the Seventh Ohio Infantry.  
PONTIAC, ILL.  
J. M. BURNS.

*Answer.*—The Seventh Ohio was raised in the northern part of the State, and was mustered into service April 30, 1861. It was at first enlisted for three months only, but in June it entered the three years' service. It first took part in the West Virginia campaign, and was in the battle of Cross Lanes. It was also engaged in the first battle of Winchester, and was in the front of the fight at Port Republic, and at Cedar Mountain, losing in the latter engagement nearly two hundred men in killed and wounded. It was

also on the field of Antietam, but not prominently engaged. It went into winter quarters at Dumfries. In the following year the Seventh was in the important battles of Chancellorsville and Gettysburg. It was one of the regiments sent to New York at the time of the riots, and immediately afterward was transferred to the Army of the West. It was at the fight at Mission Ridge, and subsequently pursued the enemy to Ringgold. In the stand made by the rebels at the latter point the Seventh Ohio lost eighty in killed and wounded. It spent the winter at Bridgeport, Ala., and in the spring took part in the fights at Rocky Face Ridge and Resaca, after which, as the men had not re-enlisted, they were sent home, and July 8 were mustered out of service at Cleveland.

#### THE MONETARY CONFERENCE—SHINPLASTERS.

FOX LAKE, WIS.  
1. What was the purpose and decision in general of the Monetary Conference? 2. What was the origin of the so-called shinplasters, used some years ago, and why were they known by that name?  
R. E. McDONALD.

*Answer.*—1. In 1878 Congress directed President Hayes to invite the governments of Europe belonging to what is known as the Latin Union, and such others as he might deem advisable, to join the United States in a conference with a view to the adoption of a common ratio between gold and silver "for the purpose of establishing internationally the use of bi-metallic money and securing fixity of relative value between these metals." In pursuance of these directions the President invited European nations to send delegates to Paris to meet delegates from the United States for the purpose mentioned. The convention met Aug. 10, 1878, delegates being present from Austria-Hungary, Belgium, France, Great Britain, Greece, Italy, the Netherlands, Russia, Sweden, Norway, and Switzerland. The free coinage of silver and the establishment of a bi-metallic system were freely discussed, but were not voted upon by the conference. Finally France and England drew up an answer to be made by the European to the American delegates in the form of three propositions. The first declared that it was necessary to maintain in the world the monetary functions of silver as well as those of gold, but that the selection of one or the other of these metals for use, or both, should be decided by each State for itself. The second said that the question of the restriction of silver coinage should also be left to the discretion of each State or group of states, especially as the monetary situation in different countries is variously affected by the fluctuations in silver; and the third decided that the differences of opinion on the subject made it quite out of the question to adopt a common ratio between the two metals. It was noticeable throughout the conference that the delegates from America were treated as messengers who had come to submit a proposition to the European delegates, rather than as representatives of the government which had called the conference together. When the propositions above mentioned had been read, the European delegates withdrew in a body to vote upon them,

"leaving the delegates from the United States to wait for an answer like criminals waiting for the verdict." The propositions were adopted by all the European delegates, and this action closed the conference. In February, 1881, the governments of France and the United States extended joint invitations to the European nations to take part in a similar conference, which assembled in Paris April 19, 1881. Delegates from the nations represented in the previous conference were present, and in addition thereto were delegates from Germany, British India, Denmark, and Portugal. The main question under discussion, as before, was the establishment of a fixed ratio between gold and silver, but after thirteen sessions, in which there had been considerable discussion, but no definite result was reached, the conference adjourned to meet in the following year. It did not reassemble, however, at the time appointed, nor has anything been since done to call it together. 2. There was a rapid rise in the value of gold and silver, consequent upon the issue of greenbacks in 1862, and in a few months all small change had disappeared from circulation. The people had to fall back upon postage stamps and private note issues for change. To relieve this annoying need Congress, in March, 1863, passed a bill authorizing the issue of \$50,000,000 in fractional notes. The private notes for 10, 25, and 50 cents that had been issued by butchers and bakers, to facilitate local trade, had received the name shimplasters—either from the idea that they were better than nothing, as a plaster for a broken shin, or, more probably, in allusion to the fact that they were generally utterly worthless outside of the town where they were issued—and the same name was given to the government's fractional notes when they came out. It had no particular applicability to these notes, as they were legal tender everywhere in sums not exceeding \$5, but it was a convenient name, and it "stuck."

#### WARS IN EGYPT AND THE SOUDAN.

CHICAGO.  
Give a brief outline of British wars in Egypt and the Soudan, from 1880 to 1885, with dates of battles. READER.

*Answer.*—The rebellion of Arabi Bey broke out Sept. 9, 1881. In June, 1882, the English fleet was sent to Alexandria. The massacre of Europeans at Alexandria by the rebels occurred June 11, 1882. The bombardment of the forts before Alexandria by the British fleet occurred July 11-13, 1882, and the city was burned by the rebels and evacuated July 13. The British army was transferred to Ismailia Aug. 19; the battle of Kassassin Lock occurred Aug. 26, and the battle of Tell-el-Kebir Sept. 13. Sept. 17, 1882, Lord Dufferin declared the war at an end, and in December Arabi Bey and the other leaders of the rebellion were tried and sent into exile. The insurrection in the Soudan began in July, 1881. Egyptian troops were sent to quell it, and kept up irregular fighting during two years. Sennaar was taken by the Mahdi in April, 1882, and Kordofan was also captured in January, 1883. Hicks Pasha was put in command of the army at Khartoom, March 4, 1883; during the summer he organized the army, and

Sept. 9, 1883, left Khartoom with an expedition against El Obeid. At the latter place the army of Hicks Pasha was surrounded and entirely destroyed Nov. 4, 1883. In January, 1884, the English Government having ordered the abandonment of the Soudan by Egyptian troops, General Gordon was sent by the Khedive to superintend the evacuation of the garrisons. While he was on his way thither, Baker Pasha, going to relieve Tokar, was attacked and utterly defeated, and Osman Digma, one of the chief leaders of the rebellion, massacred the entire garrison stationed at Sinkat. General Gordon arrived at Khartoom Feb. 18, 1884, and about the same time a body of troops under General Gerald Graham, sent by way of the Red Sea, reached the port of Suakin. Tokar, where an Egyptian garrison was stationed, surrendered to the rebels under Osman Digma, Feb. 21, but this leader was signally defeated in a fight with General Graham at El Teb on Feb. 29. About the middle of March communication with Khartoom was broken by the cutting of the telegraph lines, and from this time General Gordon, with his small band of adherents, was held here in a state of siege. Collecting all his forces and advancing on his besiegers, however, Gordon gained a great victory over them Aug. 30. Sept. 9, 1884, the long-delayed expedition for the relief of General Gordon left England under General Wolseley. Sept. 10, 1884, General Gordon sent letters and dispatches by Colonel Stewart, one of his aids, and two other Europeans to Dongola, which was still in the hands of the Egyptians, and in communication with Lower Egypt and the British forces. The officers went by steamboat, and had with them a band of natives supposed to be entirely trustworthy, but these stranded the vessel and betrayed the white men into the hands of the rebels Sept. 18, and all were murdered. The relief expedition reached the Soudan early in January. General Wolseley made his headquarters at Korti, and thence sent one force under General Stewart on camels across the desert of Shendi, and the other under General Earle by boats down the Nile. The forces under General Stewart met and defeated the rebels in the battle of Abu Klea Jan. 16 and 17, 1885, and again at Metemneh Jan. 19. Sir Charles Wilson was now sent down the Nile to rescue General Gordon and open communication with Khartoom. Arriving before that city Jan. 28, it was found to be in the hands of the rebels. It had been taken by treachery Jan. 26, and General Gordon had been killed. Feb. 9, the forces under General Earle met the enemy at Shakook Wells and worsted them. On the 10th a more serious engagement was fought by these troops at Bierti, where the rebels were again defeated, but General Earle was killed. General Stewart also died Feb. 16 from the effects of a wound received in the Abu Klea fight. His second in command, General Redvers Buller, had another fight at this point, in which he routed the enemy, but, finding himself unable to protect his forces there, retreated to Gakdul



Wells. The plan now was to have General Brakenbury, who had succeeded General Earle, advance across the country and take the important town of Berber, while General Graham, who had been reinforced at Suakin, should advance toward that point across the desert, laying the railway as he moved. However, the plan was never carried out. General Graham did advance part of his troops, and in a battle at Hasheen overcame the enemy with heavy loss, and work upon the Suakin-Berber railroad was actually begun. But the other points held by the British troops were given up, and when the hot season began the men began to suffer so seriously that General Wolseley recommended an abandonment of the campaign. Orders were therefore given by the home government for the evacuation of the Sudan, and the troops began to depart May 25, 1885. June 29 following, the leader of the Sudan rebellion, Mohammed Achmet, known as the Mahdi, died. Some irregular fighting was kept up for some months in the vicinity of Suakin, but no further advance into the country was attempted, and the project of the railroad was abandoned.

#### SIR WALTER RALEIGH.

LESTVILLE, Mich.

Give a brief sketch of Sir Walter Raleigh. J. B.

*Answer.*—Sir Walter Raleigh was born in 1552 in Devonshire, Eng. At the age of 17, his adventurous disposition led him to leave his studies at Oxford, to join a troop sent to the aid of the Huguenots in France. In 1579 he sailed with his half brother, Sir Humphrey Gilbert, on an expedition to plant a colony in North America. They were attacked by some Spanish ships, however, in mid-ocean, and their vessels were so seriously injured that they were obliged to return. During the next year Raleigh held a commission as captain in the campaign in Ireland, and distinguished himself by gallantry and courage. Soon after this he seems to have attracted the attention of Queen Elizabeth—according to the story, by spreading his costly cloak on a miry place for her to walk upon—and soon rose high in her favor. In 1584, having obtained a patent from the Queen of lands on the continent of North America, he fitted out two ships at his own expense for a voyage of discovery. It is thought that he went with this expedition, but history does not give certain testimony on this point. It landed on the shore of what is now North Carolina in July, 1584, and explored the coast both northward and southward, then returning to England, gave such a glowing account of the country that Raleigh called it Virginia, in honor of the Virgin Queen. Elizabeth made him a knight in acknowledgment of the compliment. No immediate good came of this colony, if we except the rather questionable benefit of the introduction of tobacco into Europe, and, after a few years of struggle, during which several auxiliary expeditions were sent out, it was given up. During the years 1587 and 1588, the country being threatened with a Spanish invasion, Raleigh was actively engaged in organizing the army and held command of the forces in Cornwall, and had command of a vessel in the

fleet which attacked and dispersed the Spanish Armada. He was in Drake's expedition against Spain in 1589, and in 1590 sailed with Frobisher with a fleet of thirteen vessels, designing to overthrow the Spanish power in the West Indies. Beyond capturing some valuable prizes they accomplished but little. Some time after this, having fallen out of favor at court, he organized an expedition to Guiana. He set sail with five ships in 1595, explored the Orinoco River country, and on his return published a glowing account of his voyage. He was admiral in the expedition against Cadiz in 1596, and in 1597 went with the expedition of Essex against the Azores. He was sent as Ambassador to the Netherlands in 1600, and on his return was made Governor of Jersey. With the death of the Queen, however, in 1603, the brilliant and successful part of Raleigh's career ended. King James disliked him from the first, and not content with depriving him of all of his preferences had him charged with complicity in a plot against the King and confined in the Tower. Here he remained for thirteen years, and spent the time of his imprisonment in writing his "History of the World," a work much superior to any English historical composition previously written. In 1615 Raleigh was liberated, but not pardoned. He obtained a commission as commander of a fleet from the King, fitted out fourteen ships, and again sailed for Guiana. He had orders from the King not to attack any Spanish settlements, but in defiance of this one of his lieutenants, Keymis, made an assault upon the Spanish town of St. Thomas, killed the Governor and burned the town. Raleigh was in no way answerable for this breach of discipline, but on his return to England he was immediately seized and thrown into prison. The Spanish Minister urged his execution, and it was decided that, having been under judgment of death previously, he could not be tried again, but must be executed under the former sentence. Denied any possibility of vindication, he was beheaded at Westminster, Oct. 29, 1618. Raleigh was a man of handsome person and manners, dauntless courage, wide knowledge, and varied talents. Besides his history he wrote many fine essays and speeches, and a number of poems.

#### CENTER OF POPULATION.

MEDFORD, Wis.

What is the center of population, and by what method is it ascertained? LEABUE.

*Answer.*—The center of population is defined as "the point at which equilibrium would be reached, were the country taken as a plane surface, itself without weight, but capable of sustaining weight and loaded with its inhabitants, in number and position as they are found at the period under consideration, each individual being assumed to be of the same gravity as every other, and consequently to exert pressure on the pivotal point directly proportioned to his distance therefrom." That is to say, it is the center of gravity of the population of the country. In 1880 the center of population was placed at latitude 39 degrees, 04 minutes, 08 seconds, longitude 84 degrees, 39 minutes, 40 seconds, which

is in Kentucky, eight miles south by west from the center of the city of Cincinnati, one mile from the south bank of the Ohio River, and one mile and a half southeast from the village of Taylorsville. In 1790 this center was twenty-three miles east of Baltimore, Md. It has moved westward nearly on the line of the 39th parallel of latitude, 457 miles in ninety years. The method of ascertaining this center is thus outlined by the census report. A point was first assumed as near the probable center, and through this point a parallel and a meridian were drawn, these lines being taken as the axes of moments. A north or south moment is the product of the population by its distance from the assumed parallel; an east or west moment is the product of the population by its distance from the assumed meridian. In the first case the degrees were measured in minutes of arc; in the second case it was necessary to use miles on account of the unequal length of a degree in different latitudes. The population of the country was then grouped by square degrees, that is, by areas included between consecutive parallels and meridians, as these are convenient units with which to work. The population of 100 of the principal cities was then deducted from that of their square degrees and treated separately. Then the position of the center of the population for each square degree was estimated as nearly as possible. The population of each square degree, and of each city north and south of the assumed parallel, was multiplied by its distance from that parallel, and the sum of the north and of the south moments made up. Their difference divided by the total population of the country gave the needed correction to the latitude, the sign of the correction being positive if north, negative if south. Similarly the east and west moments were made up, and from them the correction in longitude was made. The result gave the latitude and longitude of the point accepted as the center of population. It makes no allowance for the spherical surface of the globe, and therefore can not be strictly correct, but is sufficiently accurate for all practical purposes.

#### ONE HUNDREDTH INDIANA INFANTRY.

PORTLAND, Mich.  
Would like a history of the One Hundredth Indiana Infantry.  
A. B. CHAPMAN.

*Answer.*—The One Hundredth Indiana Regiment was mustered in at Fort Wayne Sept. 10, 1862. Was first sent to Memphis, and was employed in that vicinity guarding railroads till the end of the year. In June, 1863, it joined General Grant's army before Vicksburg. Was with Sherman in his Jackson expedition. It was encamped near Black River during the summer. In the fall was sent to reinforce the army before Chattanooga. It was in the battle of Mission Ridge, where it lost 132 in killed and wounded. Was then sent to the aid of Burnside at Knoxville, and was in camp at Scottsboro after this till May 1, 1864. It was in all the battles before Atlanta, and joined in the pursuit of Hood. Then took part in the march to the sea, went to Washington for the review, and was sent home for

muster out June 9, 1865. This regiment lost 464 men from all casualties during the war.

#### EIGHTEENTH INDIANA BATTERY.

DENNISON, Ill.  
Give sketch of the Eighteenth Indiana Battery.  
W. T. L.

*Answer.*—The Eighteenth Battery was mustered in at Indianapolis Aug. 24, 1862, with Eli Lilly as Captain. It was soon after sent to Louisville and thence southward. It was engaged in the fight at Tullahoma, and also at Chickamauga. In October it was sent with the expedition of General Crook against the rebel General Wheeler. Was at the fights at McMinnville and Farmington. Was sent to the relief of Burnside at Knoxville, after which it joined Sherman and was in the battle before Atlanta. It then went with General Nelson to Selma, Ala., thence to West Point and Macon, destroying stores. It then returned to Chattanooga, and was soon after sent to Nashville where it remained until it went home for final discharge in June, 1865.

#### METAPHYSICS.

NEW LISBON, Wis.  
Tell us something about metaphysical science, and simplify it so that he who "runs may read" and understand.  
E. BORTON.

*Answer.*—There is a story told of an old Scotch dominie who when asked the meaning of metaphysics said; "When the hearer dinna kens what the speaker means, and the speaker dinna kens what he means himself—that is metaphysics." The definition is not a bad one as applied to certain writings that bear the name. The word was first applied by Aristotle to certain dissertations, which, containing his highest generalizations concerning natural things, on the phenomena of mind as well as of matter, were placed by him after his essays on physics, and entitled "ta meta ta physika," literally "that which follows after the physics"—the science of natural things. The name came later to be applied to the science which treats of the evolution and phenomena of human intelligence, and may be properly regarded as synonymous with mental philosophy or psychology. The distinction drawn between physics and metaphysics is usually this: Physics includes such cognitions as are drawn from experience and can be proved by experiment, while metaphysics deals in those cognitions for which the only evidence is their logical necessity. But the fact is the two sciences—the philosophy of natural things, and the philosophy of mind, are mutually inter-dependent, and can only be thoroughly and logically understood when considered together. When metaphysics loses its connection with and applicability to physics, it becomes empty and dreamy. That much of what has been written under the name is open to this charge, cannot be doubted, and hence comes the applicability of the old Scotchman's definition. A recent invention of certain unbalanced intellects known as "metaphysical science" and applied to the healing of bodily ills, need only be examined to show its utterly unscientific nature. To attempt to put it into logical form is to attempt the impossible, for there is neither logic nor reason in it. There is a story told of a physician who frequently had cases of



supposed insanity brought before him for decision. He kept by him the works of some extravagant metaphysician, and gave them to the patients to read. When one of these threw down the book with an exclamation characterizing it as utter nonsense, he was pronounced sane, but those who were delighted with what they read and extolled it as beautiful and eloquent, were ordered into straight-jackets immediately. Probably the lucubrations of "metaphysical healers" might be used as a "tester" of this kind, and we do not think they could be applied to any better purpose—except as fuel.

## GRANT'S TOUR ROUND THE WORLD.

HAMBURG. Iowa.  
Give an outline of Grant's tour round the world, the route he took, etc. W. SPERRY.

*Answer.*—General Grant embarked on a steamer at the Philadelphia wharf for his tour round the world May 17, 1877. He arrived at Queenstown, Ireland, May 27. Thence he went to Liverpool, Manchester, and on to London. He remained in that city several weeks, and was made the recipient of the most brilliant social honors. July 5 he went to Belgium, and thence made a tour through Germany and Switzerland. He then visited Denmark, and Aug. 25 returned to Great Britain, and until October spent the time in visiting the various cities of Scotland and England. Oct. 24 he started for Paris, where he remained a month, then went on to Lyons, thence to Naples, and subsequently with several friends he made a trip on the Mediterranean, visiting the islands of Sicily, Malta, and others. Thence going to Egypt, the pyramids and other points of note were visited, and a journey made up the Nile as far as the first cataract. The programme of travel next included a visit to Turkey and the Holy Land, whence in March the party came back to Italy through Greece, revisited Naples, went to Turin and back to Paris. After a few weeks spent in the social gayeties of that city, the Netherlands was chosen as the next locality of interest, and the Hague, Rotterdam, and Amsterdam were visited in turn. June 26, 1878, the General and his party arrived in Berlin. After staying there some weeks they went to Christiana and Stockholm, then to St. Petersburg, Moscow, and Warsaw, and back over German soil to Vienna. Another trip was now made through Switzerland, and then returning to Paris, a start was made for a journey through Spain and Portugal, in which Vittoria, Madrid, Lisbon, Seville, and other important towns were visited. A trip was also made from Cadix to Gibraltar by steamer. After another brief visit to Paris General Grant went to Ireland, arriving at Dublin Jan. 3, 1879, visited several points of interest in that country, then by way of London and Paris, went to Marseilles, whence he set sail by way of the Mediterranean Sea and the Suez Canal for India. He reached Bombay Feb. 13. Thence visited Allahabad, Agra, and rode on an elephant to Amber, also went to Benares. Delhi, Calcutta, and Rangoon, spent a week in Siam, then went by steamer to China. After spending some time at Canton, Peking, and other places, he went to Japan for a brief visit. He

went to Nagasaki, Tokio, and Yokahama, and at last, Sept. 3, 1879, set sail from Tokio on his return to the United States. Sept. 20, he arrived in the harbor of San Francisco. After some weeks spent in visiting the points of interest in California and Oregon, he returned to his home in the Eastern States.

## NUMBER OF MEMBERS OF CONGRESS.

LA PLACE, Ill.  
Give the number of members in each Congress from Washington's time to the present.

JOSEPH ULEY.

*Answer.*—The following table gives the information desired:

NUMBER OF CONGRESSES.	Dates included.	Representatives.	Senators.
First and Second.....	{ Apr. 30, 1789. { Mar. 3, 1793.	65	26
Third to Seventh inclusive.....	{ Mar. 3, 1793. { Mar. 3, 1803.	105	30
Eight to Twelfth inclusive.....	{ Mar. 4, 1803. { Mar. 3, 1813.	141	32
Thirteenth to Seventeenth inclusive.....	{ Mar. 4, 1813. { Mar. 3, 1823.	181	34
Eighteenth to Twenty-second inclusive.....	{ Mar. 4, 1823. { Mar. 3, 1833.	213	43
Twenty-third to Twenty-seventh inclusive.....	{ Mar. 4, 1833. { Mar. 3, 1843.	240	48
Twenty-eighth to Thirty-second inclusive.....	{ Mar. 4, 1843. { Mar. 3, 1853.	223	52
Thirty-third to Thirty-seventh inclusive.....	{ Mar. 4, 1853. { Mar. 3, 1863.	237	66
Thirty-eighth to Forty-second inclusive.....	{ Mar. 4, 1863. { Mar. 3, 1873.	243	79
Forty-third to Forty-seventh inclusive.....	{ Mar. 4, 1873. { Mar. 3, 1883.	293	76
Forty-eighth to Fifty-second inclusive.....	{ Mar. 4, 1883. { Mar. 3, 1893.	325	76

## THE BURNT RECORD ACT.

TURNER, Ill.  
Please give history, purport, etc., of the Burnt Record Act. C. M. O.

*Answer.*—In November, 1871, when the adjourned session of the Illinois Legislature met, a committee of nine was appointed for the purpose of drawing up and introducing bills in relation to the records destroyed by the Chicago fire. A number of these bills were prepared, and all their important specifications were embodied in three acts. The first, "an act to provide for re-recording deeds, mortgages, and other instruments in writing, where the original records thereof have been destroyed, and to fix the fee for such re-recording," was approved March 1, 1872; the second, "an act to provide for the restoration of court records which have been lost or destroyed," approved March 19, 1872; the third, most commonly known by the above name, was "an act to remedy the evils consequent upon the destruction of any public records by fire or otherwise." It was approved April 9, 1872. It provided for the re-recording of deeds, etc., or certified copies of the same, which had been destroyed by fire; enacted that where records of such papers had been kept by other counties, or by the courts, such might be used as evidence concerning the lost papers, and that the United States authorities should be called upon to furnish any information they might have concerning lands whose deeds have been destroyed; provided for the restoration of abstracts, and gave to courts of chancery power to establish title in such cases, also specified evil-

dence admissible, and other important details in suits arising from the loss of records, etc. The act is very complete and covers each point with much particularity, being intended to provide for every case likely to be referred to its provisions.

#### HONEY-DEW.

What causes the honey-dew on Nantucket Island?  
CROMWELL, IOWA.  
O. L. STAHLMEYER.

**Answer.**—Honey-dew, a saccharine liquid found on leaves of trees and plants, is supposed to be caused in two ways; by the excretion of a kind of insect, the aphides, and also by an exudation of the leaves themselves. The cause of this exudation is still an unsolved botanical problem. It is especially frequent on linden trees. It seems to be caused by something peculiar in the climate, and is said to be most often seen on islands in the temperate latitudes. Warm dry weather seems to stimulate its appearance.

#### FIFTEENTH INDIANA INFANTRY.

Give brief history of the Fifteenth Indiana Volunteer Infantry.  
DERBY, Kan.  
GEORGE PLUM.

**Answer.**—The Fifteenth Indiana was mustered into the three years' service at Lafayette, June 14, 1861. It was sent to West Virginia, and was at the engagements of Rich Mountain and Green Brier. In November it was sent West to General Buell's command. It was at the battle of Shiloh, at the siege of Corinth, also at the battle of Perryville and Stone River. In the latter fight it had 197 men killed and wounded out of 440 engaged. It was stationed at Murfreesboro till June 24. It was at the fight at Tullahoma, also at Mission Ridge, where it had 202 men killed and wounded out of a total of 334 engaged. On the day after the Mission Ridge fight the regiment was sent to Knoxville, where it stayed till February, 1864, and was then sent back to Chattanooga, where a part only of the regiment re-enlisted. In June the non-veterans were sent home, and the veterans and recruits were transferred to the Seventeenth Indiana Volunteers (mounted infantry), where they served till their muster-out in August, 1865.

#### FOURTEENTH INDIANA REGIMENT.

Give a brief history of the Fourteenth Indiana Infantry.  
MILTON, Wis.  
R. T. JONES.

**Answer.**—The Fourteenth Regiment Indiana Volunteers was organized at Camp Vigo, near Terre Haute, in May, 1861; was mustered into service in June for three years. In July it was sent to West Virginia, and took part in the battles of Cheat Mountain and Green Brier. In March, 1862, it went to Martinsburg to join General Sheridan's command, and was at the battle of Winchester Heights. It was present at South Mountain, but was kept with the reserve force. At Antietam, however, it was in the hottest of the fight, and had 181 killed and wounded from a total of 321 men taken into battle. For the firmness with which its brigade stood fire in this fight it was called by General French the "Gibraltar Brigade." At Fredericksburg the Fourteenth was again in advance and lost heavily. At Chancellorsville it had a share in the third day's fight only. At Gettysburg it lost 123

men and officers in killed and wounded. In August it was sent to New York to quell the riots, and, returning, took part in the operations at Mine Run. In December, 1863, part of the regiment re-enlisted. In the Second Corps, under Hancock, it was at the front in the terrible fights of the Wilderness, Spottsylvania, North Anna, etc. The battle of Cold Harbor was the last in which the old Fourteenth took part. After this the non-veterans were sent to Indianapolis and mustered out June 16, 1864. The veterans and recruits, who remained on duty in the Second Corps, in August were transferred to the Twentieth Regiment, where they served till muster-out July 12, 1865.

#### GATE OF TEARS—BRIDGE OF SIGH.

Where are the "Gate of Tears" and the "Bridge of Sighs," and why so called?  
ROME, Ill.  
J. S. TERREN.

**Answer.**—The straits of Babelmandeb, the passage from the Persian Gulf into the Red Sea, are called the "Gate of Tears" by the Arabs. The channel is only about twenty miles wide, is rocky and very dangerous for passage in rough weather. It received its melancholy name from the number of shipwrecks that occurred there. The "Bridge of Sighs" is the bridge in Venice which connects the palace of the doge with the state prison, and was so called because over it prisoners were conveyed from the judgment hall to the place of execution.

#### THIRTY-FIRST INDIANA INFANTRY.

Would like a sketch of the Thirty-first Indiana Volunteers.  
DORCHESTER, Neb.  
A. J. WAMPLER.

**Answer.**—The Thirty-first Indiana Infantry was mustered in at Terre Haute, Sept. 15, 1861, and was sent to Kentucky, where it was encamped at Calhoun until sent to take part in the battle of Fort Donelson. In this fight it lost sixty-eight men in killed and wounded; at Shiloh it lost 142. Was also at the siege of Corinth, and was stationed at various points during the months following. At Stone River it lost fifty-one in killed and wounded. After the battle it was guarding a pass in the mountains until June. It was in the fight at Chickamauga, then went into camp at Bridgeport. The majority of the regiment re-enlisted in January, 1864. It was with Sherman in all the battles before Atlanta, and took part in the pursuit of Hood after the surrender of the city, and was present at the battle of Nashville, after which it followed Hood's army to Huntsville. When the Forty-seventh Corps was transferred to New Orleans the Thirty-first went with it, reaching that city in July, 1865. Subsequently it was sent to Texas, where it remained till its muster out early in the following year.

#### NINTH OHIO CAVALRY.

Give a history of the Ninth Ohio Cavalry.  
LEXINGTON, Ohio.  
W. WILSON.

**Answer.**—In the latter part of 1862, Captain W. D. Hamilton, of the Thirty-second Ohio Regiment, was assigned the duty of organizing a cavalry command to be known as the Ninth Ohio Cavalry. As soon as one battalion was raised it was equipped, and in April of the following year



was ordered to the field. This battalion was engaged in active service in Kentucky and Tennessee, scouting and looking after the movements of Morgan's guerrillas during the entire year. In December, 1863, the regiment was completed by the addition to it of two other battalions. It was engaged in the usual service of cavalry regiments, scouting and skirmishing and raiding through the surrounding country. One of its most important expeditions was a raid into Alabama to destroy the Atlanta and West Point Railroad. It was present at the fights before Atlanta, and in November, 1864, was permanently attached to the cavalry division of General Sherman's army, going through with that army to the coast. In July the regiment was ordered home, and Aug. 2, 1865, was mustered out of service at Columbus, Ohio.

#### THE WELLAND CANAL.

Give history and description of the Welland Canal.  
KANSAS, ILL.  
WILLIAM MOADAMS.

*Answer.*—As early as February, 1816, a joint commission of both houses of Parliament of Upper Canada reported on the project of connecting Lake Erie with Lake Ontario by means of a canal, and during the next year a bill was introduced to appropriate money for a complete survey of the best route for that connection, but no action was taken until 1821, when a committee was appointed to consider the subject. This committee reported in 1823 in favor of a canal, and a company was soon afterward formed to undertake the work. The actual construction of the canal was begun in 1825. The entrance of the canal was at Port Dalhousie, and its upper terminus at the Welland River. Navigation through the completed canal began in 1829. Subsequently the main line of the canal was extended over the Welland River to Port Colborne, this enlargement being completed in 1853. In 1873 the canal was again enlarged. The canal is now twenty-eight miles long, and has twenty-seven locks 150x26½ feet. The estimated cost of the canal has been, including repairs, about \$9,000,000.

#### KISSING THE BOOK.

What originated the kissing of the Bible in taking an oath?  
DAVIS, ILL.  
E. E. SCHUCH.

*Answer.*—The idea on which oaths, or adjurations, were founded was that the unseen powers or deities would always punish a falsehood if their attention was called to it. That is, the person might be as untruthful as he would on ordinary occasions, but whenever he called on one of the gods to witness the truth of his assertion, he was bound to keep his word, lest the deity, outraged at being made a party to a falsehood, would wreak special vengeance upon him. From this idea, which has survived from the earliest times to the present, came the belief that the proximity of an object regarded as sacred made the oath more binding; i. e., made men more afraid to violate it. The ancient Jews touched their phylacteries in taking an oath. Later, their practice was to lay the hand upon the book of the law, whence came our custom of swearing on the Bible. The various

customs of taking oaths in different countries, have all a similar origin. The early Anglo Saxons laid the hands on a pillar of stone, because stones were regarded as sacred to their gods. In mediæval times it was customary to touch a relic, and this was regarded as giving the oath more sacredness even than when taken upon the Missal, or prayer-book. When Harold swore allegiance to King William of Normandy, the Missal was placed upon a chest which, when afterward opened, was seen to be filled with bones of the saints. It is a curious proof of the superstition of the times, this idea that an adjuration to the Almighty was made more solemn by the presence of a knuckle-bone, a jaw, or a double-tooth, of a dead man. Another custom of mediæval times was swearing by churches. A certain number were mentioned, and the attestor was obliged to go to each one, take the ring of the church door in his hand and repeat his oath. From very early times the Russian custom has been to kiss the cross to attest an oath, and the practice has extended into other countries. This was the oath of the Knights Templar and other similar bodies, and the laws of the order of the garter in Henry VIII's time, required the Knights to touch the book and kiss the cross. A common attestation of the oath in Germany in the middle ages and later, was by the bosom, placing the hand thereon. This came from the practice of wearing a crucifix or amulets suspended from the neck. Kissing the book, which is still the common practice throughout the British Empire, as well as in this country, has not been permitted in Scotland since the reformation.

#### ELECTRICITY, GALVANISM, AND MAGNETISM.

Give the difference between electricity and galvanism and magnetism.  
WABASH, IND.  
J. S. J. C.

*Answer.*—Electricity is a name given to a power in nature which is only known through its manifestations. The name is also applied to the science which treats of this power, and the power itself is sometimes styled the "electric fluid." We have, however, neither conception nor experience of electricity as an independent existence apart from electrified substance, but come to recognize it by certain properties manifested by such substance. These are (1) the power of attracting or repelling other electrified bodies; (2) the power of inducing similar properties in contiguous bodies; (3) the power of attracting light unelectrified bodies, and (4) the power of giving out sparks when strongly electrified. The many applications of electrical power are all included in manifestations of the above-mentioned properties. Electric force, when in a state of rest, is known as statical electricity, when in motion is called dynamical electricity. The force can be brought into action by means of friction, heat, and other agencies. That form which is developed by chemical action is known as galvanism. The action of acid upon dissimilar metals, as copper and zinc, through the mechanism of a voltaic pile, or common battery, is used for the evolution of this force, and is the usual method of inducing dynamical electricity. Magnetism is the name

given to the phenomena displayed by magnets; that is, the property of attracting metallic iron. Magnetism can be transformed into electricity and electricity into magnetism. Electricity induced by magnetic action is called magneto-electricity, and magnetism developed by means of voltaic electricity, or the galvanic battery, is known as electro-magnetism.

#### THE UTE REBELLION—N. C. MEEKER.

BURDETTE, ILL.  
Give a brief account of the Ute rebellion in 1879, and a sketch of Agent Meeker, who was then killed.  
R. T. WELLS.

*Answer.*—There seems to have been no real cause for this outbreak, though some years before the agency business was so grossly mismanaged that the Indians were very discontented. Mr. Meeker was appointed as agent in 1878, and he was said to be both just and humane in all his dealings with the Indians. The ground of discontent at this time, however, seems to have been a general movement on the part of the white men to reduce the reservation of the Utes. In the spring of 1879 the Colorado Legislature passed a memorial to Congress urging the opening of the reservation to white settlement, and the removal of the Indians therefrom. Of course, there were many white men ready for encroachment, whether it could be legally attempted or not, and many who did not hesitate to threaten the Indians with removal from their lands. Moreover, Mr. Meeker, believing that the wide extent of country used by the Indians for hunting could not be permanently left them, with the tide of immigration pressing so closely up to its very borders, endeavored to induce the Indians under his charge to turn their attention to agriculture, supplying them with the necessary implements, and using all the compulsory means allowed him to force them to cultivate the lands. As might have been expected, the spirit of mutiny was aroused immediately. The Indians would not obey Mr. Meeker and his attempts to enforce the regulations he had made only made matters worse. The Indians became more and more unruly, and at last, in July, the agent, feeling that he lost his power to control the rebellious spirit that had been aroused, wrote to the Indian Bureau, begging that troops be sent to quiet the Indians. No attention was paid to his request at first, but at last in September an order was issued for the advance of a body of soldiers, under Major Thornburgh, from Fort Fred Steele to the White River Agency "to inquire into the causes of trouble and to check further insubordination." It was intended that the Indians should not know of this advance until the arrival of the troops at the agency, but news of the movement flew on the wings of the wind, as it were, and with it the rumor that the white soldiers were coming to drive the Utes from their lands, and there was an instant uprising throughout the tribe. The advancing cavalry were attacked near the Milk River, on the north line of the reservation. Major Thornburgh and thirteen of his men were killed, and the rest were forced to entrench themselves as well as they could. Many were wounded, and

their horses were all killed or captured. The soldiers were kept in a state of siege for some days, until another force under General Merritt reached and rescued them. On the same day that the attack was made on Major Thornburgh the Indians killed Mr. Meeker and all the male employes of the agency. The women and children were taken prisoners, but were not harmed and were released a few weeks later. Ouray, chief of the White River Utes, had always professed friendliness to the whites and to Mr. Meeker. He claimed that the attacks had been made without his previous knowledge, and immediately ordered his tribe to stop fighting. When General Merritt and his forces arrived at the agency Ouray met him and made such promises for the good behavior of his tribe that no attempt was made to punish those who had made the attack on Major Thornburgh, or the murderers of Mr. Meeker and his assistants, though a Peace Commission was sent out to investigate the matter, and Chief Ouray said that he would surrender the responsible actors in the agency murders if they could be taken to Washington for trial. The feeling against the Indians in Colorado was very strong, and had popular sentiment then had any influence in shaping matters there is no doubt that speedy justice would have been visited on the guilty parties. The fact that this would have led to a war in which scores of innocent beings would also have undoubtedly perished, is the justification for the temporizing policy which finally permitted the offenders to escape.

Nathan C. Meeker, the agent at White River, was a native of Northern Ohio. While still a boy, being possessed with a burning desire to enter the field of literature, he went to New Orleans—walking most of the way from Cleveland, Ohio—and, though without money or friends, succeeded in getting a place as reporter on one of the city papers. Two years later he went back to Ohio, and taught school until he had earned enough money to take him to New York, where he again tried literary work, but with such poor results that he soon returned to teaching. In 1844 he went back to Ohio, married and joined the Trumbull phalanx, a community on the Fourier plan, organized at Braceville, Ohio. The society was a failure. Mr. Meeker afterward joined the Campbellites and kept a store in Hiram, where this sect built their large college about this time. He subsequently went to Dongola, Ill., and about the time the war broke out, began correspondence for the newspapers with such success that Horace Greeley engaged him as one of the war correspondents on the *Tribune*, and he went to various points in the South with the army. After the war he was appointed to a place on the staff of the *Tribune*. He was the originator of the plan of the colony at Greeley, Colo., and one of the first residents there. To his energetic management the prosperity of the colony was, no doubt, largely due. In 1878 he went to take charge of the White River Agency, with many excellent plans in his mind for founding a



prosperous farming community of Indians. His projects were destined to melancholy failure, as has been described.

#### EIGHTEENTH INDIANA INFANTRY.

BENSON, III.  
Give a brief sketch of the Eighteenth Indiana Infantry, with names of its officers. T. J. PARKER.

*Answer.*—The Eighteenth Indiana Infantry was mustered in at Indianapolis, Aug. 16, 1861, with Thomas Pattison, colonel. It marched with Fremont's army to Springfield and spent the winter there; was in the battle of Pea Ridge in March, 1862, then went to Helena and on to the Sulphur Springs. It was on duty in Southeastern Missouri in the fall and winter and was transferred to Grant's army in the spring of 1863; was in the battles of Grand Gulf, Port Gibson, Champion Hills, and Black River Bridge. Before Vicksburg it did heroic work, taking part in the assaults on the entrenchments and losing heavily. Some time after the surrender it was sent on to New Orleans and took part in the Bayou Teche River expedition in November, thence went on to Texas to aid in the attack on Fort Esperanza. Jan. 1 the regiment re-enlisted, and after veteran furlough was transferred to Virginia, and was with Butler at Bermuda Hundred, taking part in some skirmishing. Aug. 5 the regiment went back to Washington, and thence was sent to join Sheridan's army in the valley. Was in the fights at Opequan, Fisher's Hill, and Cedar Creek. Jan. 6, 1865, the men embarked for Savannah, and spent three months there building fortifications. May 3 they were sent to Augusta to raise the Union flag over that city, then went back to Savannah, thence to the southern part of the State. Aug. 28, 1865, they were mustered out and sent home. The officers of the Eighteenth in 1863 were H. D. Washburn, Colonel; W. S. Charles, Lieutenant Colonel; Jonathan H. Williams, Major; David E. Adams, Adjutant; John H. Popp, Quartermaster; A. P. Dougherty, Surgeon.

#### DANTE—GOETHE.

UNION GROVE, WIS.  
Give brief sketches of Dante and Goethe. F. J. S.

*Answer.*—1. Dante Alighiere was born in Florence, Italy, in May, 1265. He acquired the elements of knowledge, probably, in his native city; in ripper years, he studied philosophy at the universities of Bologna and Padua. Italy at this time was distracted by the feuds of the Guelphs and Ghibellines, and Dante ardently espoused the cause of the former party. He fought in the battle of Campaldino in 1289 and was present at the taking of the fortress of Caprona in 1290. We do not know what civil offices he held but it is certain that he was sent upon several embassies, and in 1300 he was elevated to the highest office of the city, being one of the priors chosen each two months. A strife now arose between two factions of the Guelph party, and as a result of this Dante was banished. He never entered his native city again, and he spent the subsequent years of his life in different cities, and finally died at Ravenna in 1321. His great poem, the "Divina Commedia," was not brought to public notice till after his death. It is sup-

posed to have been written during his exile, but the exact time and place of its composition are not known. 2. Johann Wolfgang Von Goethe was born at Frankfurt-on-the-Main, Germany, in 1749. He was liberally educated, and in 1771 took his degree as a lawyer. But his love of literature soon drew him quite aside from professional duties. He first composed a drama, "Gotz Von Berlichingen," which was published in 1773. In 1774 appeared the "Sorrows of Werther," which soon made him famous throughout Europe. In 1775 he formed a friendship with the Grand Duke of Saxe-Weimar, who soon after invited him to his court, where he received various positions of preference, becoming in 1779 "Actual Privy Councillor." In 1782 he received a patent of nobility. In 1786-87 he traveled through Southern Europe, returning to Weimar, where he resided until his death in 1832. His other notable works were "Egmont" (1788), "Tasso" (1790), "Wilhelm Meister" (1795), "Hermann and Dorothea" (1797), "Eugenie" (1804). The first part of "Faust," the greatest poem written by Goethe, appeared in 1806; the second part was not finished until 1830.

#### THE MIRAGE.

GOOD HOPE, III.  
Give an explanation of the mirage, the cause thereof and when visible. J. F. HENDRICKSON.

*Answer.*—The cause of the mirage is extremely simple. It is merely the difference in density of contiguous strata of the atmosphere. It usually occurs when from any cause, as the radiation of heat from the earth, the stratum of air lying near the surface of the earth in any locality, is rendered less dense than the stratum above it. In this case rays of light from a distant object situated in the denser medium—that is, a little above the earth's surface—will strike the rarer surface at a very obtuse angle, and be reflected backward. Thus if a spectator is situated on an eminence and looking at a distant object in the same stratum of air, he will see the object by directly transmitted rays, and, besides this, rays from the object will be reflected from the upper surface of the rarer stratum of air beneath. The image produced will be below the real object and inverted. In certain states of the atmosphere only a part of the rays are reflected and thus two images are formed, one by refraction and one by reflection, the first erect, the second inverted. Sometimes, objects that are distant, and beyond the range of vision because of the curved surface of the earth, are made visible; this is simply caused by the refraction of the atmosphere. The mirage of the desert, which takes the appearance of a lake or sheet of water, is the reflection of the sky or a cloud. As the reflecting surface is irregular and constantly varies its position, owing to the continual communication of heat to the upper stratum, the reflected image will be constantly varying, and present the appearance of water ruffled by the wind. This form of mirage will often deceive experienced travelers. A mirage frequently seen in the Straits of Messina is known as the "Fata Morgana." Another remarkable in-

stance of mirage is the "Spectre of the Brocken." Remarkable instances are also on record as seen on the Baltic coast and in the Arctic regions. Though only common in certain localities, the mirage may appear anywhere where conditions are favorable.

#### SEVENTY-THIRD INDIANA INFANTRY.

WOODVILLE, Ind.

Give a brief history of the Seventy-third Indiana Infantry, with names of officers. GEO. J. COLE.

*Answer.*—The Seventy-third Indiana was mustered in at South Bend, Aug. 16, 1862; was soon after ordered to Kentucky, joining Buell's army in October. Was at the battle of Chaplin Hills, and afterward engaged in the pursuit of Bragg. During the rest of the year it was engaged in marching from one point to another, and took part in several skirmishes. Was at the battle of Stone River, where it lost 104 in killed, wounded, and missing. April 10 the regiment was attached to Streight's Provisional Brigade, and sent by river to Eastport, Miss., thence by land to Tusculum, Ala., and went with Streight's raid to Rome, Ga. At the fight at Day's Gap, April 30, on this raid, the Seventy-third lost twenty-three men, and at Blount's Farm, May 2, Colonel Hatheway was mortally wounded. May 3 the brigade was surrounded and taken by the enemy. The men were forwarded North and exchanged and the officers were kept in close confinement. In March, 1864, the soldiers of the Seventy-third were released from patrol and went back again to duty. In the spring of 1864 the regiment was employed in guarding the Nashville and Chattanooga Railroad, and in the summer was picketed along the Tennessee River. In September it was sent to Decatur, Ala., thence to Athens, Ala., and was engaged in a sharp fight at the latter point with General Buford's cavalry. A few days later was engaged with the advance of General Hood's army near Decatur. In January, 1865, the regiment went to Huntsville, and was on duty on the line of the Mobile and Charleston Railroad, with headquarters at Larkinsville, Ala. In midsummer was sent back to Nashville, where it was mustered out of service July 1, 1865. The regimental officers at the time of muster-out were A. B. Ward, Colonel; W. M. Kendall, Lieutenant Colonel; James Hagenbach, Major; George M. Hubbard, Quartermaster.

#### THE SUSPENSION ACT OF 1878.

PALMERA, Neb.

1. Was the act to forbid the retirement of United States notes a Republican or a Democratic measure?
2. Did it not virtually destroy the resumption act?

J. S. M.

*Answer.*—1. The opposition to resumption came mainly from the Democratic party. But the member who brought in the bill referred to—the act making it unlawful "for the Secretary of the Treasury or other officer under him to cancel or retire any more of the United States legal tender notes" was Mr. Greenbury L. Fort, of Illinois, a Republican. This bill was laid before the House April 29, 1878, and passed by a vote of 177 to 35. One hundred and four Democrats voted for the measure, with seventy-three Republicans, and the vote against it was twenty-seven Republicans and eight Democrats. The

bill was taken up by the Senate May 7 following, and after some discussion was passed—yeas, 41; nays, 18. The party division of the affirmative vote was seventeen Republicans and twenty-four Democrats, and that of the negative ten Republicans and eight Democrats. 2. At the time this law was passed nearly all the fractional notes not destroyed had been redeemed in silver. The law forbade the cancellation and destruction of the notes redeemed by the Secretary of the Treasury, but as no limit had ever been placed on the amount or kind of fund which this officer could keep on hand, the prohibition had no practical effect. Resumption took place Jan. 1, 1879, as had been provided by a previous act, and this suspension bill was found not to interfere with it to any appreciable extent.

#### WATERING STOCK.

CLAY CENTER, Kan.

What is the process of watering stock? What are its results, and whom does it affect? J. M.

*Answer.*—The process of watering stock was originated by the elder Vanderbilt. It consists simply in estimating the stock of the road at a figure greatly above its real value. For instance, when Commodore Vanderbilt, in 1868, secured control of the New York Central as well as the Hudson River Railroad, the combined capital stock of the two roads was only about \$36,000,000. Early in 1869 he declared a tremendous dividend of new stock to the stockholders, and raised the estimated value of the two roads to \$90,000,000. At first glance, it might be supposed that there was no harm in this, any more than in putting a purely fictitious value on any article of one's property. Thus, if a man should buy an old scrub of a horse for \$20, and immediately raise its price to \$500, we might say that he wronged no one, as no man could be found foolish enough to pay the fancy price for the animal. But the action of Vanderbilt had a purpose which took it quite out of the realm of eccentricities, such as estimating an old horse at 2,000 per cent or so above its real value. The general railroad laws of the State of New York provided that when the dividends of any railroad corporation should reach 10 per cent the State could declare how the surplus above the 10 per cent should be applied. This provision, it is plain, was rendered nugatory by Vanderbilt's scheme, as, if a railroad can at any time declare stock dividends with no reference whatever to the costs of construction and repair, a dividend of 10 per cent may never be declared, though the road may be actually earning 30 or 40 per cent upon its actual cost. This scheme of watering stock has since been carried to a great extent by the managers of our railroads, as it puts into their hands the means of enriching themselves at the expense of the public in many ways. For instance, a branch line of one hundred miles is to be built. It is ascertained that the cost and equipment of the road will be about \$20,000 per mile. Aid from the towns and countries through which the road is to pass is promised, in the form of purchase of the stock of the road. The object



of the railroad managers is now to give as little value as possible in return for this money aid, and the corporation, therefore, instead of making its contract upon the basis of cash issues to the construction company which has been organized to build the road, issues first mortgage bonds of, say, \$25,000, and perhaps second mortgage bonds of \$20,000 a mile, and stock of an equal sum, making a total capitalization of \$65,000 a mile, instead of the \$20,000 per mile, which represents the actual cost of construction of the road. It may be that the road is wholly built and equipped on the issue of the first mortgage bonds alone. The road is now compelled, in order to secure apparent solvency, to earn over and above running expenses, interest on a funded debt which is double its cost, and also to earn dividends on stock beyond that sum. That this rate of earning has been accomplished frequently, is an evidence of the enormous growth and general prosperity of the country, but the general public has suffered for it. It may be said that the real or pretended cost of a railroad has not much to do with the rates charged for freight between distant and competitive points. It has, however, much to do with the fixing of the local rates, and is a constant incentive to increase the rates for the purpose of paying interest and return upon all the capital issues of the road. This scheme of watering stock has worked its natural result in creating a general distrust of railroad stocks as a form of investment. It is needless to say that where local traffic is not brisk railroads do not pay dividends, often not even the interest on the stock which has been issued and sold on a basis of wholly fictitious values.

#### RAISING GRAIN IN ELEVATORS—SUCTION WHEELS.

1. How is suction obtained in elevators when grain is carried up to the fourth or fifth story in a spout? 2. How is a suction wheel made? ST. CHARLES, IOWA.  
T. C. YOUNG.

*Answer.*—1. The grain in elevators is not drawn up by suction, but by hoisting it in cups attached to an endless chain. The chain revolves around a shaft in the upper part of the spout or chimney. At intervals along the chain are the cups, attached, of course, with their openings all pointing the same way. The lower part of the chain, passing in its revolution through a bin of grain, has its cups filled. It carries them upward and as they turn at the top of the spout each cup is emptied into a chute which carries the grain into a bin. The spout through which the chain revolves may be 20 feet or 100 feet in height. It may convey the grain to the top of the building, or there may be an elevating spout on each story taking the grain upward. 2. A suction wheel is made with curved vanes or blades extending from the center to the circumference. The rotation of the wheel drives the air by centrifugal influence toward the circumference thus tending to create a vacuum at the center. Into this vacuum the outside air tends to be drawn with great force. If the vanes overlap each other on the edges, and an opening is made around the axis, when the wheel revolves air will rush in

through the openings and out at the circumference continuously. The same wheel can be an exhaust or suction wheel, drawing the air out of one apartment, and a blowing wheel, driving the air into another.

#### LAND TENURE IN IRELAND.

PEORIA, ILL.

1. The statement is made that the reason why so many houses of the peasantry in Ireland are mere mud huts, without windows or chimney, is because if they put in these improvements they would be taxed for them. Is this true? 2. What is the franchise law of Ireland? W. STAFFORD.

*Answer.*—1. The system of land tenure in Ireland is what is known as the cottier system. The name is taken from the Irish cottiers or cottagers. It is used to apply to a tenure which has its rent fixed not by custom but by competition. This system also prevails in the United States, and here is not found incompatible with a prosperous condition of the laboring classes; but in Ireland, where the agricultural population is so much larger in proportion to the land than here, and where there is so little opportunity for other employment than that of farming, the effects of the system have been most deplorable. In many places rent became forced by competition up to the highest limit compatible with the existence of the tenant. Often this limit was exceeded, not in payment, but in promise, the tenant pledging himself to pay even more than the land would produce in the best seasons, for the sake of securing the farm. Sometimes, of course, it was mere recklessness, but oftener the force of circumstances and hard necessity, that led the tenant to undertake the payment of an impossible rent; but whatever the cause the result was the same, that the tenant was always hopelessly in debt to the landlord. The landlord, too, according to the laws formerly in force, was not in any way responsible for the condition of the estate, and could not be compelled to make any improvements thereon, while he had the right to raise the rent at any time to any amount, and to force the payment of it by harsh levies upon the tenant's personal property; or, if the latter had nothing that could be seized, he could be evicted without process of law or delay. The evil effect of this system—aside from the individual suffering often caused by the tyranny which it permitted—was found in the fact that it allowed the tenant to gain nothing by industry and prudence, and gave him no incentive to the exercise of these virtues. If he worked his land well and improved his estate, he saved nothing, as the immediate result was an increase in the rent. This is what is meant by the taxation of improvements, and the fear of an increased rent was the reason commonly assigned by a tenant for the neglected appearance of his farm and the wretched, windowless, dilapidated home. It was said that the least sign of improvements, a better horse or coat, a new gate, a new piece of furniture, even "a bit of bacon hanging up in the kitchen," was made the pretext for raising the rent. Of course, there were many landlords who never took unfair advantage of their tenants in this manner, but many of them, as they did not live in the country, cared not-

ing for the well-being of their tenants or their farms, and only wanted to secure the highest rent that the law would permit them to extort. The worst features of the old land laws of Ireland do not now exist. By a law passed by the imperial Parliament in 1870 all improvements made by the tenant were to be regarded as his property, and if removed from his holding in any way he was to be paid for them. It did not, however, lessen the landlord's arbitrary power. The law of 1881, however, completely nullified this power by the rights which it guaranteed to the tenant. And it may be said that, had there not existed other causes of dissension, and, above all, a most intense popular hatred of the English, founded upon the memory of ages of oppression, the law of 1881 would have ended all disturbance among the Irish people, as it granted to tenants a degree of right and privilege which is not given to this class by the laws of any other civilized country on the globe. 2. The franchise law of Ireland is the same as that in force throughout all of Great Britain. The reader will find all its important provisions detailed in an article in *Our Curiosity Shop* book for 1885.

#### SLAVERY IN THE TERRITORIES.

Did Congress pass a Territorial bill during President Lincoln's administration, without a proviso prohibiting slavery therein?  
WICHITA, Kan.  
S. H. R.

*Answer.*—No. The question of slavery in the Territories was forever settled by an "Act to secure freedom to all persons within the Territories of the United States," passed early in 1862. This bill was introduced by Mr. Lovejoy, of Illinois. It provided: "That from and after the passage of this act, there shall be neither slavery nor involuntary servitude in any of the Territories of the United States now existing, or which may at any time hereafter be formed or acquired by the United States, otherwise than in the punishment of crimes whereof the party shall have been duly convicted." But in each of the acts organizing the Territories admitted during this administration—Arizona, Feb. 24, 1863; Idaho, March 3, 1863, and Montana, May 26, 1864—a proviso was inserted expressly forbidding slavery in the Territory.

#### THE CANTILEVER BRIDGE.

Describe the principle on which the cantilever bridge is built, and tell what bridges are thus constructed. What does the word mean?  
OTTUMWA, Iowa.

*Answer.*—A number of large bridges have been made on the cantilever plan, among which may be mentioned the Fraser River bridge, and the Niagara River bridge in this country, and the Frith of Forth bridge in Scotland. The principle on which these bridges are constructed is simply that of an inflexible beam supported in the middle, and firmly anchored at the shore end. The other end of the beam is in the middle of the bridge. The weight of the structure rests upon the buttresses, and the balance is maintained by the firm anchorage at the shore ends. This bridge can be successfully built over rapids and cataracts, where central supports or piers are impossible, as the trussed beams forming the

cantilevers and the central fixed span, can be put together and built outward from the towers or buttresses and kept self-supporting at every stage of the work. The word cantilever has long been in use in architecture and is derived from cant, an external angle, and lever, the supporting timber of the roof of a house. It is applied to projecting blocks to support balconies, etc., in the construction of the upper part of a building.

#### THE MULTICHARGE GUN.

NONA, Ill.

Several years ago a gun was made somewhere in this country which was said to throw a ball fifteen miles. Tell when this gun was made and describe it.  
R. S.

*Answer.*—The gun referred to was manufactured by the Reading (Pa.) Iron Company in the year 1883. The main peculiarity in the construction of the gun was a series of four large protuberances arranged in a line, and hanging from the under after part of the gun, each being shaped something like a cow's bag. These protuberances communicate with the bore of the gun, and contain pockets for holding powder. The gun is charged with eighteen pounds of powder at the breech, against which the projectile rests in the ordinary manner; in each of the pockets a charge of twenty-eight pounds of powder is placed. The breech charge is then fired which starts the projectile, and as it passes the pockets, each of the charges therein is fired by the flame within the cannon. Each of the five successive charges, therefore, accelerates the projectile afresh, so that it is forced from the mouth of the gun with tremendous velocity. The range of this gun is from twelve to fifteen miles, and the great momentum of the ball will carry it through iron plates two feet in thickness.

#### THE HOLOCAUST OF PORT-AU-PRINCE.

Give an account of the burning of the palace of Port-au-Prince in the revolution against Salnave.  
POINT GIBBONE, Miss.  
H. N. J.

*Answer.*—In February, 1867, an insurrection broke out in Hayti against President Geffrard. That official abdicated immediately, and the government was placed in the hands of a triumvirate, but in June following Salnave, one of the triumvirs, was elected to the presidency, and a new constitution was adopted. In November of the same year, however, a new revolt began against Salnave. This continued throughout the two following years, attended with much bloodshed and shocking cruelties. Toward the latter part of 1869 the tide of success began to turn in favor of the revolutionists. They had captured the war vessels of the government and threatened to bombard Port-au-Prince, where Salnave had concentrated the few forces now left under his command, his troops having been greatly reduced by desertions. Early on the morning of Dec. 19 the bombardment began, an army also being sent against the city by land. Salnave and the most of his friends, with a part of the troops, took refuge in the palace, a large and solid structure. One of the vessels had on board an American who was a practical artilleryman. The rebels threatened to kill him if he would not fire a shell into the palace. This he did with such



precision that the shell was hurled into the throne-room which was then used as a store-room for powder. This instantly took fire and tore the building to pieces. It is said that 500 soldiers and civilians perished in the ruins of the palace. Sainave escaped, but was subsequently taken, tried for bloodshed and treason, convicted, and shot in January, 1870.

## KINGS OF SWEDEN.

Give a table of the Swedish kings from the introduction of Christianity to the present time.

ROCK FALLS, Ill.

W. ROBB.

**Answer.**—In the earlier part of the middle ages, the Scandinavian peninsulas were known only through the piratical expeditions which they sent out to ravage adjacent seas. By the way of the North Sea, these Vikings of the North reached France, England, Greenland and America; by the way of the Baltic, Russia. Norway was converted to Christianity in the tenth century. Denmark and Sweden in the eleventh. With the introduction of the gospel piracy ceased and civilization began. The first Christian King was Olaf, the Lap-king, so-called, it is said, because he was acknowledged King when he was an infant. The following table gives the name of the Kings, length of reign, and line of descent. Olaf belonged to the old historic Upsala dynasty, but dropped the name and called himself Swede-king:

## UPSALA DYNASTY.

NAME OF KING.	Length of Reign.	Line of Descent.
Olaf the Lap-King.	993-1024	Son of Olaf.
Anund Jacob.....	1024-1052	
Edmund the Old..	1052-1066	
		Eldest son of Olaf.

## LINE OF STENKIL.

Stenkil .....	1066-1066	Second cousin of Olaf, elected.
Hakon the Red.....	1068-1081	Chosen to the throne after two years' civil war. Neither his connection with the reigning line, nor the length of his reign, are exactly known.
Inge the Elder and Haстан.....	1081-1110	Sons of Stenkil, said to have reigned part of the time conjointly. Inge died several years before the other.
Philip and Inge the younger.....	1110-1128	Sons of Halstan, reigned jointly. Philip died in 1118.
Ragwald .....	1128-1129	Usurped the royal power, and was put to death for this presumption.

## LINES OF SWERKER AND ST. ERIC.

Swarker.....	1133-1155	Descendant of one of the old and powerful nobles. Elected.
St. Eric.....	1155-1160	Son of a wealthy yeoman. Had married daughter of Inge the younger. Elected.
Charles Swarker-son.....	1160-1167	Son of Swarker. Elected. Killed by Eric's son Canute.
Canute Ericson....	1167-1195	Son of St. Eric.
Swarker Carlsson....	1195-1210	Son of Charles.
Eric Canuteson....	1210-1216	Son of Canute.
John Swarker-son....	1216-1232	Son of Swarker Carlsson.
Eric Ericson....	1232-1250	Son of Eric Canuteson.

This period lasting nearly 100 years, during which the heirs of the two opposing lines of

Swarker and Eric contended for the throne, was a time of almost continuous civil war. The periods given for the reigns of the kings mentioned in not a single instance indicate a term of unbroken rule over the entire kingdom. The Swarker line was favored by the Goths, in the southern part of the peninsula, and the Eric line by the Swedes, in the central part, and often the representatives of the different families held rule at the same time in the opposite sections. With John and Eric the two rival families died out, and room was made for a new dynasty.

## THE FOLKUNGERS.

Waldemar.....	1251-1279	Son of the powerful Earl Birger. Elected. Dethroned by his brother, and died in prison in 1302.
Magnus Ladislas..	1279-1290	Brother of Waldemar.
Birger Magnusson..	1290-1319	Son of Magnus. Dethroned by the people because he starved his two brothers to death in prison.
Magnus Smek.....	1319-1363	Son of Birger's brother Eric. Dethroned by a rebellion of the nobles.
Albert of Mecklenburg.....	1365-1388	Son of sister of Magnus Smek. Elected by the nobles.

During Albert's reign war was waged against Sweden by Queen Margaret of Denmark and Norway. This Princess, a daughter of the King of Denmark, had married Hakon, son of Magnus Smek, who had been made King of Norway. Her crowning ambition was to unite the three kingdoms under one ruler. She was successful in her attempt and on the 20th of July, 1397, the conditions of the union were drawn up at Calmar. But the Queen's reign is usually dated from 1388, when she invaded the kingdom.

## RULERS UNDER THE UNION OF CALMAR.

Queen Margaret....	1388-1412	Reigned jointly with Eric after the union.
Eric of Pomerania..	1396-1439	Grand nephew of Margaret. Dethroned by popular revolution, 1434; restored 1438; dethroned again in 1439.
Engelbert, leader of the revolution, ruled.....	1434-1436	
Charles Bonde....	1436-1440	
Christopher of Bavaria.....	1440-1448	Son of Eric's sister. Elected.
Christian of Oldenburg.....	1457-1464	Son of King Eric. Dethroned.
John V.....	1483-1501	Son of Christian I. Dethroned.
Christian II, the Tyrant.....	1499-1521	Son of John. Dethroned.

During the interregnums shown by above dates Sweden was under the rule of regents or administrators. Charles of Boude, known as Charles Canuteson, held supreme power from 1467-70. After the fall of Christian I, two members of the famous family of Oxenstiern ruled the country for three years—1464-67. In 1471, the Stures, most powerful of the nobles, assumed control of affairs, and such influence had they that even when a King was on the throne, they were actual rulers. Of this family, Steno Sture, the elder, held the office of Administrator 1471-97, and 1501-3; Suanto Sturo, a cousin of the former, 1504-12; and Steno Sture the younger, son of Suanto, 1512-20. Then order

was restored and national growth secured by the accession to power of

#### THE HOUSE OF VASA.

Gustavus I.....	1523-1560	A noble of high rank. Elected.
Eric XIV.....	1560-1568	Son of Gustavus. Insane. Deposed.
John III.....	1568-1592	Son of Gustavus.
Sigismund.....	1592-1599	Son of John. Became a Roman Catholic. Deposed.
Charles IX.....	1599-1611	Son of Gustavus.
Gustavus Adolphus.....	1611-1632	Son of Charles.
Queen Christina.....	1632-1654	Daughter of Gustavus Adolphus. Abdicated.
Charles X.....	1654-1660	Nephew of Gustavus Adolphus.
Charles XI.....	1660-1697	Son of Charles X.
Charles XII.....	1697-1718	Son of Charles XI.

#### RULERS UNDER THE CONSTITUTION.

Queen Eleanora, wife of Frederick of Hesse Cassel.....	1718-1751	Sister of Charles XII. Elected. Surrendered the government to her husband.
Adolphus Frederick of Holstein.....	1751-1771	Elected.
Gustavus III.....	1771-1792	Son of Adolphus.
Gustavus IV.....	1792-1809	Son of Gustavus III. In sane. Deposed.
Charles XIII.....	1809-1818	Brother of Gustavus III.
Charles XIV.....	1818-1844	Marshal Bernadotte. Elected.
Oscar I.....	1844-1859	Son of Charles XIV.
Charles XV.....	1859-1872	Son of Oscar I.
Oscar II.....	1872-	Son of Oscar I.

#### PLYMOUTH ROCK.

Tell the history of Plymouth Rock. What is now built on the site of this rock? PERRY. III.  
R. M. NEWTON.

*Answer.*—A flat rock near the vicinity of New Plymouth is said to have been the one on which the great body of the pilgrims landed from the Mayflower. The many members of the colony, who died in the winter of 1620-21, were buried near this rock. About 1738 it was proposed to build a wharf along the shore there. At this time there lived in New Plymouth an old man over 90 years of age named Thomas Faunce, who had known some of the Mayflower's passengers when a lad, and by them had been shown the rock on which they had landed. On hearing that it was to be covered with a wharf the old man wept, and it has been said that his tears probably saved Plymouth Rock from oblivion. After the Revolution, it was found that the rock was quite hidden by the sand washed upon it by the sea. The sand was cleared away, but in attempting to take up the rock it was split in two. The upper half was taken to the village and placed in the town square. In 1834 it was removed to a position in front of Pilgrim Hall and enclosed in an iron railing. In September, 1880, this half of the stone was taken back to the shore and reunited to the other portion. A handsome archway was then built over the rock, to protect it in part from the depredations of relic hunters.

#### SIR THOMAS ROE.

Please give a sketch of Sir Thomas Roe, who lived in the seventeenth century. PAYNE'S POINT, III.  
G. B. R.

*Answer.*—Sir Thomas Roe was born in Essex, England, about 1580, and educated at Magdalen College, Oxford. He made in early manhood one voyage—and perhaps more—to America in search of adventure and discovery. In 1614 he was sent on an embassy to the Great Mogul, at

Delhi, India, and remained at this court three years. In 1621 he went in the same capacity to the court of Turkey, remaining there nearly eight years. During his residence there he collected a number of manuscripts, which he presented to the Bodleian library on his return. In 1629 Sir Thomas negotiated the peace between Poland and Sweden, and it was by his advice that Gustavus Adolphus undertook the campaign in Germany, in which he won the battle of Leipsic. After the victory the King sent his adviser a present of £2,000. Sir Thomas Roe was subsequently member of Parliament, Minister to the Diet of Ratishon, Chancellor of the Garter, and member of the King's Privy Council. He died in 1644.

#### FALSE PROPHETS OF THE SEVENTEENTH CENTURY.

RANKIN, III.  
Please give a brief sketch of the false prophets of the seventeenth century and their doctrines.

A. D. BECKLEY.

*Answer.*—One of the most notable of these was Sabbatei Sevi, a Jewish fanatic. There was a belief current about the middle of the century that the year 1666 was to be remarkable for some great event. This idea seemed to be founded on the mystic number 666, found in the book of Revelations. On the prophecies of the Old Testament the Jews also found an expectation of their Messiah about this time. Sabbatei Sevi, a Jew of Smyrna, declared himself the expected Messiah, and being of handsome appearance and ready speech, he found many inclined to believe in him. Knowing the firm conviction of the Jews that Elijah must come first to herald the Messiah, he hired Nathan, a rabbi, to take the part of Elijah. The two then each attested the other's claims as well as his own and secured a very large following in Syria. They expounded the prophecies in public at Smyrna and elsewhere, and declared that the Sultan was soon to be dethroned and Jerusalem to become mistress of the world. Sabbatei openly declared himself the Messiah and adopted a style of royal pomp, which his eager admirers paid for. So great was the enthusiasm over the supposed King, and his reputed miracles, that the Jews throughout Syria everywhere deserted their business and made preparations for departure en masse for Jerusalem. Sabbatei then went to preach to the Jews at Constantinople, but on arriving in that city was arrested by the Grand Vizier. He would probably have been immediately put to death, but numbers of Jews came from far and near—for the fame of the prophet had gone all over Europe—and offered large sums of money for the privilege of seeing him, and the Grand Vizier preferred to keep him alive and draw a tax from his devoted followers. At last the Sultan heard so much of the miracles wrought by this pretended Messiah that he sent for him, and to test his claims, ordered that he be made a target for poisoned arrows. Sabbatei then threw himself upon his knees and confessed that to turn aside these arrows would be a miracle beyond his strength. The Sultan then gave him his choice, either to be impaled alive or to become a Mussulman. He did not hesitate, but embraced the Turkish



religion. He then preached that he had been sent to substitute the Turkish for the Jewish religion, and induced a number to embrace Moslemism. But being suspected of a desire to renew his former pretensions, the Sultan again imprisoned him, and he died in captivity.

Another impostor of this century was Desmarette, a Frenchman, who pretended that God had given him with His own hand the key to the apocalypse, that with this key he would reform the world. He also pretended to prophecy. He was much incensed at the appearance of another pretended prophet, one Simon Morin, a poor, half-witted fellow, who fancied that he was sent from God and was incorporated in the nature of Jesus Christ. Desmarette had Morin tried and condemned, and he was burned at the stake in 1663. Desmarette himself soon fell into disfavor, was deserted by his followers, and subsequently died in obscurity.

England had also one of these fanatics at about the middle of the century. This was James Naylor, a native of Yorkshire. He had been a soldier in Cromwell's army, and had been converted by the Quakers, but had become so extravagant in his avowed beliefs that they disowned him. He was for a time imprisoned for some extravagance, but was soon liberated, and shortly after announced that he was the true Christ. By preaching he induced a large number of people to believe in his mission as the Messiah, and they attended him in a procession through the streets of Bristol, singing hosannas and strewing flowers and green leaves before him. This was more than Oliver Cromwell could stand, and he summoned the fanatic to appear before Parliament. Naylor was tried at length, and as there was no law on the statute book to meet such a case, a law was made with appropriate punishments. Naylor was whipped at the cart's tail, made to stand in the pillory, had a red-hot iron run through his tongue, and was branded with a large B—for blasphemer—on his forehead. He did not repent of his deeds, however, or groan under his punishment. Then he was sent to Bristol and flogged through the streets where his triumphant procession had passed, and was finally imprisoned for life. He recanted all his follies in prison, and died there a few years later.

#### THE PANIC OF 1857.

HUNTER, III.  
Give a brief history of the panic of 1857.  
W. H. THORNTON.

*Answer.*—The cause of the panic of 1857 was mainly the rage for land speculation which had run through the country like an epidemic. Paper cities abounded, unproductive railroads were opened, and to help forward these projects, irresponsible banks were started, or good banks found themselves drawn into an excessive issue of notes. Every one was anxious to invest in real estate and become rich by an advance in prices. Capital was attracted into this speculation by the prospect of large gains, and so great was the demand for money that there was a remarkable advance in the rates of interest. In the West, where the speculative fever was at its highest, the common rates of interest were from

2 to 5 per cent a month. Everything was apparently in the most prosperous condition, real estate going up steadily, the demand for money constant, and its manufacture by the banks progressing successfully, when the failure of the "Ohio Life and Trust Company," came, Aug. 24, 1857, like a thunderbolt from a clear sky. This was followed by the portentous mutterings of a terrible coming storm. One by one small banks in Illinois, Ohio, and everywhere throughout the West and South went down. Sept. 25-26 the banks of Philadelphia suspended payment, and thus wrecked hundreds of banks in Pennsylvania, Maryland, and adjoining States. Oct. 13-14, after a terrible run on them by thousands of depositors, the banks of New York suspended payment. Oct. 14 all the banks of Massachusetts went down, followed by a general wreckage of credit throughout New England. The distress which followed these calamities was very great, tens of thousands of workmen being unemployed for months. The New York banks resumed payment again Dec. 12, and were soon followed by the banks in other cities. The darkest period of the crisis now seemed past, although there was much heartrending suffering among the poor during the winter which followed. The commercial reports for the year 1857 showed 5,123 commercial failures, with liabilities amounting to \$291,750,000.

#### GARIBALDI AND THE FRENCH REPUBLIC.

BLOOMFIELD, N. Y.  
Give a brief sketch of Garibaldi's career in the Franco-Prussian war.  
F. B.

*Answer.*—Garibaldi was living in retirement on the island of Caprera when the Franco-Prussian war broke out. On the establishment of the French Republic, in October, 1870, he went to Tours, and offered his services to the new government, in behalf of the national defense. He was made a general of division in the French army by Gambetta, and assigned to the command of the irregular troops in the Vosges Mountains, in Eastern France. He had in a few days three brigades of irregular troops under his command. His appointment, however, was not a success. From the very first he was involved in a quarrel with his superior in command, General Cambriels, and the difficulty was only quieted by the removal of the superior officer. It was thought that his presence would arouse much popular enthusiasm, but unfortunately his outspoken contempt for the church made him much disliked in the provinces where he was stationed, the majority of the people there being religiously inclined. He had but little opportunity, also, to distinguish himself in the field. In his first encounter with the Germans near Dijon, Nov. 26, he was forced to retreat. He then entrenched his force at Autun and repulsed several attacks made upon his position with much loss to the enemy. Subsequently he was stationed at Dijon, whence he was driven by a large force of the Germans in the latter part of January. Not long after this the armistice brought all military operations to an end. In February Garibaldi was elected for Paris and several departments as Deputy to the National Assembly, but political

affairs had so little interest for him that at the preliminary meeting of that body at Bordeaux Feb. 12 he resigned his seat. Seeing that the war was at an end, he also gave up his command in the army and returned to his home at Caprera.

#### WHY THE OCEAN IS SALT.

MUSCATINE, Iowa.  
L. JESTER.

*Answer.*—It is possible that the saline elements of sea water may be in part derived from geological formations which consisted largely of these elements, but it is generally considered that the saltness of the ocean is sufficiently accounted for by the deposition of soluble salts by means of rivers. Salts of various kinds form part of the constituent ingredients of the earth's soil everywhere; they are washed out by springs and rivulets and carried to the sea by large streams, and as the evaporation which feeds the streams carries none of the dissolved matters back again, the tendency is to accumulate in the sea. The principal saline ingredients found in ocean water are chloride of sodium, or common salt, with salts of magnesia and lime. The different parts of the sea vary somewhat in the proportion of saline matter contained, the polar currents showing less than the equatorial waters. The salinity is also diminished near the mouths of rivers, and in those inlets of the sea which are fed with fresh water in excess of their evaporation.

#### ATMOSPHERIC ELECTRICITY.

NEWTON, Ill.  
R. J. M.

*Answer.*—The conditions of atmospheric electricity are very imperfectly understood. Close to the earth, the air has generally little or no electricity, but as we ascend into the upper strata we enter the electrified region. How this electricity is produced is not fully understood, though some writers regard it as caused by the electricity of the earth. The higher we go in the air the greater the amount of electricity found. The kind of electricity differs from that in the earth. The earth is known to be a great magnet charged with negative electricity; the electricity of the air, therefore, being of a different nature, is understood to be positive electricity. Later experimenters, finding a difference in electrical conditions which does not seem to require the use of the words positive and negative, describe it as a difference of potentials. The precise nature of this potential difference is something not included within the present limits of human knowledge. It is supposed that condensation of vapor in the air produces electricity, since greater differences of electrical condition are found in the air in cloudy than in clear weather, and because it is always clouded when it lightens. In clear weather the electricity of the air becomes more negative the higher we go, but in windy and rainy weather the difference is greatly changed, sometimes becoming actually reversed. Lightning is the equalization of electricity in the clouds. It may not be true that one of the clouds is charged with positive, and the other with negative electricity; it may only be the transmission of electricity

from an electrified cloud to one not electrified. The lower the temperature of the upper air the greater amount of electricity is it believed to hold. This seems to be shown by the phenomena of the aurora in the polar regions. The aurora is much more brilliant in the cold regions of the poles than in the temperate zones, partly because of the greater cold of the atmosphere there, and also because the earth's centrifugal motion brings the rarefied stratum of air nearer the surface of the earth. There is a constant flow of negative electricity from the magnetic pole, and this striking the positively electrified upper layers of rarefied air, produces the auroral displays.

#### THE CURVATURE OF THE EARTH.

PEERLESS, Ohio.  
J. C. WHITE.

*Answer.*—The curvature of the earth's surface can not be perceived by the eye in merely gazing upon it from an elevation; this is because the vision is not capable of the comparison of height, etc., necessary to perceive this curved surface. But comparison of the height of objects at various distances will prove the fact of curvature plainly. For a statute mile the curvature is 6.99 inches; for a geographical or nautical mile it is 7.962 inches. Its effect upon the visibility of objects may be thus illustrated. If a pane of glass is held against a globe, the objects will touch only at one point, the globe's surface continually falling away from the glass. Suppose the ocean to be calm and frozen, and a great level sheet of glass laid upon it. At one mile from the tangent point the ocean falls nearly eight inches below the glass, at three miles six feet, at nine miles over fifty-four feet, and so on. The number of feet of depression is equal to two-thirds of the square of the number of miles for any observable distance. But in estimating the visibility of objects it must be noted that this depression is partially cancelled by the phenomena of refraction, which causes objects to appear higher than they would if there were no atmosphere. Careful measurements have shown that the error from refraction averages rather more than one-seventh of that from curvature. The rule, therefore, commonly used for correction of curvature and refraction is: Square the number of miles and take four-sevenths of it for the correction in feet. Thus, if an object is visible at a distance of five miles we may know that its height is about fourteen and one-third feet. Or if the height of the visible object is known—say 100 feet—take one-fourth of this, multiply by seven, and take the square root of this product, which gives the distance of the object, in this case a fraction over thirteen miles. The error frequently made in computations of this kind is that they do not take into account the elevation of the observer as well as that of the object observed. A man swimming on the surface of the water can perceive a tower 200 feet high and nineteen miles away as a



mere speck on the horizon; but if the man were elevated 100 feet above the surface of the water he could plainly perceive a tower half the height of the other on a horizon fully twenty-six miles distant.

#### INEZ DE CASTRO.

KALAMA, W. T.  
Give a sketch of the life of Inez de Castro, and what led to her coronation after her death.

LUCIA A. JENKINS.

*Answer.*—Inez de Castro sprang from a branch of the royal family of Castile, was appointed lady-in-waiting to the wife of Dom Pedro, son of Alfonso, IV., of Portugal, and became Dom Pedro's wife after the death, in 1345, of his first consort. The marriage was a secret, but was discovered, when Dom Pedro was taxed with the union and had not the courage to reveal the whole truth. It was shown that this marriage might prove injurious to Dom Pedro's son by his first wife. He, however, refused to marry another, and the King's counsel decreed that Inez was to die. Dom Pedro was away hunting when this sentence was put into execution. Dom Pedro attempted a revolt against his father, but was pacified by the Queen and others, and promised not to seek revenge for the death of Inez. Two years afterward, Alfonso died, but before he expired he advised the murderers of Inez to leave Portugal and seek shelter in Castile, where Peter the Cruel was then ruling. As some of Peter's nobles had escaped to Portugal, he proposed to Dom Pedro, now King, to exchange fugitives, and this was done. Two of the assassins were delivered up and were tortured and burned. Two years afterwards, the King in an assembly of nobles, declared that he had been lawfully married, by the papal sanction and the presence of an archbishop to Inez de Castro. When this statement was fully and properly confirmed, the King ordered that Inez's body should be removed from its grave, clothed in royal robes, with a crown on its head, and seated on a throne, and receive homage as queen. This was all done, and the Portuguese nobility saluted the dead as though life still remained. The remains were then removed to Alcobuça, followed by the King, with the bishops and nobility all on foot. The grave was marked by a splendid marble monument, surmounted by her statue, wearing a crown.

#### CALIFORNIA'S DEATH VALLEY—AMARGOSA RIVER'S SINK.

OKAJAJO, D. T.  
Give a description of what is known as the Death Valley in California.

S. L. RITTER.

Describe the sink of the Amargosa River in California.

IRAVA, Ill.

JOHN A. CASS.

*Answer.*—It is the sink of the Amargosa River that has received the name of the Death Valley because of the unhealthy quality of the air. The Amargosa River rises in the hills of the Sierra Nevada range in Nevada about latitude 37 degrees, and only a few miles from the California boundary. It flows southward nearly parallel with that boundary for about ninety miles, then crosses the border into California, and soon disappears in a sink or the bed of a

dry lake at the foot of the Resting Spring Mountains; from this it emerges and flows through the valley still southward about sixty miles, when the bed of another dry lake swallows it up. Emerging from this, the river flows around the hills which contain the famous Amargosa mines. About latitude 35° 38' it turns and flows toward the northwest 100 miles, when it sinks wholly out of sight and knowledge in the famous Death Valley. This valley is in the county of Inyo, between the Paramint Mountains and the Amargosa range. It is forty miles long by about eight miles broad; in its deepest part its bed lies 159 feet below the level of the sea, and its rocky sides rise 1,300 to 2,000 feet above its bed. Every part of the valley is desert; the air in it is excessively dry and intensely hot. Its topography and climate have never been accurately observed, for no man can live long enough in the valley to ascertain the needed facts. The poisonous quality of the air is perhaps only its intense heat, for in the coolest and highest part of the valley the thermometer often stands at 125 degrees. It is surmised, however, that deadly gases may be emitted from cracks in the rocks, as the valley is undoubtedly of volcanic formation, but this idea has never been tested.

#### CAPTURE OF GENERAL STONEMAN.

HERRIOT, Ill.

Give an account of the fight at Hillsboro, Ga., and the capture of General Stoneman.

R. P. J.

*Answer.*—The engagement at Hillsboro is known to the Confederates as the fight at Sunshine Church. It was the final episode of Stoneman's unfortunate raid. This raid was planned by General Sherman to destroy the Macon Railroad, the only road leading into Atlanta which, in July, 1864, was still in the hands of the Confederates. Sherman's plan was to throw his cavalry in two heavy columns upon it, 5,000 men under General Stoneman to pass to the east by the town of McDonough, and 4,000 under General McCook to the west by Fayetteville, to meet at Lovejoy's Station, and there destroy the road so effectually that the enemy in Atlanta would be cut off from all supplies, and forced to abandon the city. General Stoneman, just before starting with his division, asked permission to go on with his command and liberate the prisoners at Macon and Andersonville. To this General Sherman consented with some hesitation, stipulating that the destruction of the railroad should be first accomplished. General McCook carried out the programme of the movement assigned him, but, failing to meet Stoneman at Lovejoy's, was forced, after tearing up one section of the road there, to retreat eastward to Newnan. Here he encountered a large force of the enemy, and, after a severe fight, in which he lost heavily, made his way through to the Chattahoochee and at last arrived safely within the Federal lines. General Stoneman, however, unwittingly or otherwise misunderstanding the liberty of action given him in the permission to go on to Macon, almost immediately after starting, turned aside from the route laid down and followed the Georgia Railroad to Covington.

whence he struck due south toward Macon, distant sixty miles, and arrived in the neighborhood of that city on the third day after starting. From this point, he sent a detachment eastward to the Georgia Central Railroad, where it destroyed several bridges and a large amount of quartermaster's stores, but learning that the prisoners at Macon had been already sent on to Charleston, he decided to return at once by the way that he had come without attempting to reach Macon or Andersonville. On the evening of July 30, he turned northward, skirmishing on the way, and on the morning of the 31st, when about twenty miles from Macon, near the little village of Hillsboro, he encountered a heavy force of the enemy on his front. The country being unfavorable for cavalry operations, he dismounted part of his command, and threw them forward against the enemy. But the odds were against him, and he soon saw that he was surrounded. After various fruitless attempts to make the enemy give way, he gave directions to the greater part of his force to escape as well as they could, while he with several hundred men and a section of artillery occupied the attention of the enemy. He was finally overpowered and forced to surrender. Of his three brigades, that under Colonel Adams reached the Federal lines nearly unharmed; that under Colonel Capron was surprised on the way, part taken prisoners, and the rest scattered, those who escaped straggling back into camp at long intervals, on foot and disarmed. The third, with Stoneman, was all captured at Hillsboro.

#### THE SPHERICAL FORM OF THE EARTH.

SPERRY, Iowa.  
Give some proofs to show that the earth is round.  
NELLIE MAHEDY.

*Answer.*—The spherical form of the earth has been so long known, and navigation, geographical exploration and geodetical measurement have been so long carried on with direct reference to the influence of this important fact, that it seems like going back to first principles to advance proofs that the earth is round. These proofs are numerous, but they may all be said to depend on a few simple facts, facts which show the rotundity of the earth so plainly that it is wonderful that mankind remained so long ignorant of their meaning. First, when there is nothing to obstruct the view, the part of the earth's surface seen from any point is always a circle. The circle is made larger by raising the observer, as to the top of a mountain, or in a balloon. Standing on the surface of the earth, or only slightly elevated, a man can not see any further with a telescope than without, he only sees more distinctly. Secondly, the surface of the sea is curved, as is seen by the way in which a ship disappears in sailing from the shore. First, the hull goes down behind the horizon, then the sails gradually slip till they are out of sight. When a vessel is approaching the shore, also, the sails first appear to view. But if the ship were moving on a flat surface from the observer, all her parts, hull, sail and masts would all dwindle to a point,

and then vanish together, while with a telescope they would be again brought to view. A third proof of the rotundity of the earth is found in the fact that it has been circumnavigated innumerable times. A traveler leaving any point on its surface and journeying continually in one direction will, if he travels on the same parallel of latitude, at last find himself again at the point whence he started. Still another proof is the fact that the shadow of the earth as seen upon the moon in eclipses is always round, and we know that the only solid whose direct shadow is always circular is a sphere.

#### THE KING OF BEAVER ISLAND.

WILMINGTON, Ohio.  
Give a sketch of a despotism that existed in Northern Michigan some years ago.  
A. W. MOORE.

*Answer.*—This was the Mormon colony on Beaver Island. It was established by James Jesse Strang, who was a native of New York, and was an enthusiastic follower of Joseph Smith. When the Mormon colony at Nauvoo was broken up, and Brigham Young had started across the plains with the most of the Mormons, Strang and a few others determined to establish a settlement on one of the islands of Lake Michigan. In May, 1847, Strang went to Beaver Island and established a camp, and in a year had twenty Mormon families established there. By the middle of 1849 he had 200 families. The fishermen and other previous settlers on the island objected much to this settlement, and continual quarrels and fights occurred till Strang one day armed his followers and drove every other settler away from the island. The Mormons were very industrious. They built a city, which they called St. James, cleared roads through the island, and built mills and docks and vessels. Strang sent out missionaries with such good success that in a few years he had a colony of several thousand. In 1850 the church was reorganized as a kingdom, with Strang as king, and also "apostle, prophet, seer, revelator, and translator." Lands were now apportioned among the people, and taxes were paid by tithes. Schools were established, a "royal press" published a daily paper called the *Northern Islander*, and a magnificent tabernacle was built. The code of laws in this kingdom was very strict; the use of tea, coffee, tobacco, and all intoxicating liquors was forbidden, and women were all compelled to wear the "bloomer" costume. Polygamy was sanctioned, but practiced by only a few, as no one was allowed to take an extra wife until he could show himself able to support her. Strang himself had five wives, but no other member of the church had more than three. Strang is described as a man of light complexion, high forehead, and vigorous frame. He was fluent of speech, suave in manner, but ruling his kingdom with absolute power. He cultivated friendly relations with the Indians, and scrupulously avoided collisions with the United States authorities. At last, however, his many enemies among the Gentiles placed his conduct in so offensive a light that United States officers were sent to arrest him for treason. They took him to Detroit for trial, but he argued his own case so well that



he was acquitted. After his return to his colony he became more strict than ever. Finding some of his subjects indulging in tea, tobacco, and like sinful stimulants, he sternly declared: "The laws of God shall be kept in this community or men shall walk over my dead body." Finally some men whom he had whipped and expelled from the kingdom swore vengeance on him, and June 16, 1855, when Strang went down to the shore to visit a government ship in the harbor, he was shot by two men in hiding on the dock, and died some days later from the effect of his wound. As soon as it was known that he was dying, the members of the colony began to scatter. The settlers from the main shore then made a raid upon the island, gave the Mormons one day to go, then destroyed all their property, and burned the city and its tabernacle.

#### THE YUKON RIVER.

MONROE, IOWA.  
Give a description of the Yukon River of Alaska, and tell something of the character of the country through which it flows and the people living upon its shores.  
R. M. NAUDAW.

*Answer.*—The Yukon, or Kwikpak River, rises in British North America, in the mountains, about latitude 64 deg., though its sources have never been explored and can not be accurately placed. It flows in a northwesterly direction and receives the waters of the Porcupine River, one of its largest tributaries, near the point where it crosses into Alaska, about latitude 66 deg. Thence it flows westward and southward to the native town of Nukyatmut, about one hundred miles from the coast. Here the river makes a bend and flows in a northwesterly direction to the sea, discharging its waters into Norton Sound through several branches, forming a wide delta. The Yukon is more than two thousand miles long, and is navigable for steamers 1,500 miles, or as far as above Fort Yukon. In many places, in the latter part of its course, one bank of the river is invisible from the other, and 1,000 miles from its mouth it is twenty miles wide. It has quite a rapid current, from four to seven miles an hour. In winter the ice on this river averages five feet in thickness, and in places often freezes to a depth of nine feet. The climate is comparatively mild near the mouth of the river, but is much more severe in the interior. The mean annual temperature in the territory drained by the river is 25 deg. Fahr. and the ground never thaws, though the short summer is quite hot, more than two or three feet below the surface. All along the Yukon River the ground is fertile and rich crops of grass grow there. The summers are too short to admit of the raising of grain, and the only vegetables that can be raised successfully are radishes, turnips, and lettuce. The whole Yukon Valley is well wooded, yielding a fine growth of firs, alders, poplars, birch, and spruce. Fishing, hunting, and cattle-raising are all occupations that could be profitably carried on in the Yukon Valley. The natives of Alaska are properly divided into two classes—the Esquimaux, living on the coast and adjacent islands, and the Indian tribes of the

interior. Of the latter the Co-Yukon is the largest tribe, living in scattered groups of rude villages along the Yukon Valley. They are described as a race of fine physical development, being tall, erect, muscular, and very courageous. In the winter they shelter themselves from the severe weather in underground hovels. They are far from being civilized, being very ignorant and superstitious. They subsist by hunting, trapping, and fishing.

#### BATTLE OF WAUHATCHIE.

MANITOWOC, WIS.  
Give brief account of the battle of Wauhatchie, Tenn.  
F. WALLICK.

*Answer.*—Wauhatchie was a small station on the railroad about twelve miles from Chattanooga, and directly under the guns of the Confederate batteries on Lookout Mountain. Hooker was moving his army toward Chattanooga, and on the night of Oct. 27, 1863, Geary's division of the Twelfth Corps had bivouacked at Wauhatchie, the advance of the moving column being halted at Brown's Ferry, some miles up the valley. A division of General Longstreet's corps under General Law now held Lookout Mountain, whence it could view every movement of the advancing troops. They planned a surprise of the force at Wauhatchie, and about 1 o'clock that night fell upon it, driving in the pickets on a run. The camp was wide awake, however, and the men fell into ranks instantly and returned the enemy's fire warmly. The Twelfth Corps (Howard's) hearing the firing came up on the double quick, and the enemy were soon forced to make a rapid retreat. The Confederate loss in killed, wounded, and prisoners in this engagement was over 350. The Union loss slightly exceeded this number. Darkness prevented any effective pursuit of the enemy.

#### THE THRONE OF THE LILIES.

RICHMOND, IND.  
Why is the throne of France called the throne of the lilies?  
G. VALENTINE.

*Answer.*—The name is applied because of the old national emblem of France—the fleur-de-lis, a species of lily. The story of its adoption is as follows: When Clovis, King of the Franks, married the Princess Clotilde, of Burgundy, in 493 A. D., she was a Christian, but the King, like most of the Frankish nation, was a heathen. The young Queen earnestly desired the conversion of her husband, but her arguments had little effect on him. However, in 496, the King, when engaged in battle with the Allemanni (Germans), at Tolbiac, near Cologne, was hard-pressed and in his necessity called upon the God of the Christians, vowing that should he obtain the victory he would himself become a Christian. The Allemanni were routed, and on Christmas day of the same year Clovis and several thousands of his soldiers were baptized. Thus far we have veritable history, but we must regard as legendary the conclusion of the tale, that on the eve of his baptism an angel from heaven presented King Clovis with a blue banner embroidered with golden fleurs-de-lis, which he was to adopt as the banner of France. Probably sweet Clotilde herself embroidered the lilies and personated—as she well might—the angel. However this may

have been, from the time of Clovis to the French Revolution the Kings of France bore as their arms, first, an indefinite number, and latterly three golden lilies on an azure field.

THE TOLEDO WAR.  
BARTLETT, Mich.  
S. HAMLIN.

*Answer.*—In the act of Congress passed in 1802, admitting Ohio as a State, its northern boundary was described as "an east and west line drawn through the southerly bend or extreme of Lake Michigan," but in the constitution of the new State, subsequently adopted, a more northerly line was specified. The only map then extant showing the position of Lake Michigan gave its southern extreme at 42 degrees 32 minutes, nearly sixty-four miles north of its true position. When Michigan Territory was organized in 1805, its southern boundary was defined as the east and west line through the southern point of Lake Michigan, but when the States of Indiana and Illinois were subsequently organized this boundary was ignored, and they stretched north of it. A resurvey of the boundary lines was now asked for by Ohio, and ordered by Congress in 1812, but was not made until 1817. The line then run was called the "Harris line," one run according to the words of the act of 1802 was called the "Fulton line." The former is the present boundary: the latter intersects Lake Erie east of the mouth of the Maumee River, and includes in Michigan the important city of Toledo. This city, as the outlet of the Wabash and Erie Canal, was the apple of discord, and gave its name to the "war." The disputed territory contained about 650 square miles, and up to 1835 was nominally under the control of Michigan Territory, which appointed its local officers. In that year, while the admission of Michigan as a State was pending, the Legislature of Ohio passed an act providing for the resurvey of the Harris line, and the organization of the disputed tract into townships. While this act was in contemplation, however, the Territorial Legislature of Michigan had passed an ordinance declaring the exercise of any official functions, save those derived from the government of the United States or of Michigan Territory, within the borders of said Territory, to be a penal offense. Great excitement prevailed; Governor Lucas, of Ohio, called on the militia to protect the surveyors under the authority of his State, and Governor Mason, of Michigan, summoned his militia to assist the civil authorities in preventing Ohio from exercising any official functions on Michigan soil, while both States made urgent appeals to President Jackson to support their respective claims. The President referred the matter to Attorney General B. F. Butler, who wrote an opinion favorable to Michigan. Then the President sent three commissioners to settle the matter, but as neither side would yield a hair's breadth in its claims, the commissioners failed. Several Ohio officials conducting the survey were arrested by the Michigan authorities, and at their trial the proceedings were conducted by the rival Governor. Sept. 6, 1835, several companies of Michigan

militia, under command of Governor Mason, went to Toledo to prevent the organization of Wood County by the Ohio authorities, fixed for Sept. 7. But at 3 o'clock on the following morning the Ohio officials, accompanied by a guard of militia, entered the town, went rapidly through the required formalities, and then stealthily withdrew. A day or two later word was received that President Jackson had issued a special order Aug. 29 superseding Governor Mason, for his officious zeal in behalf of Michigan's claims. During the next session of Congress there was a sharp debate on the question of admitting Michigan as a State. Finally, Jan. 15, 1836, an act was passed admitting her on condition of her acceptance of the "Harris line" as her southern boundary, and in compensation for this concession she received the addition of the tract known as the Upper Peninsula. The first convention of delegates called in the Territory rejected the terms offered, but a second, though called somewhat informally, accepted the conditions, received recognition at Washington, and the State of Michigan was admitted Jan. 26, 1837. The cost of the "Toledo war" to the pioneers of the disputed tract was estimated at \$250,000.

ONE HUNDRED AND EIGHTY-FIFTH OHIO INFANTRY.

IRVING, ILL.  
X V.  
Give a brief history of the One Hundred and Eighty-fifth Ohio Infantry, with its officers.

*Answer.*—The One Hundred and Eighty-fifth Ohio Infantry was organized at Camp Chase, Feb. 26, 1865. Its officers were Colonel John E. Cummins, Lieutenant Colonel Dennis H. Williams, and Major H. N. Benjamin. Feb. 27 the regiment started for Kentucky. Bezimantal headquarters was established at Eminence, and the companies were scattered through the State. Cumberland Gap was guarded for several months by four companies of the regiment, Mount Sterling by two companies, and Shelbyville, La Grange, Lebanon, Greensburg, and several other towns were at times garrisoned by its soldiers. It had no opportunity for showing its fighting qualities. Sept. 26, 1865, after seven months' service, the regiment was mustered out in Lexington, Ky., and returned to Camp Chase for discharge.

FLORENCE NIGHTINGALE.

GIG HARBOR, W. T.  
Give a brief sketch of Florence Nightingale.  
MRS. R. I. PATRICK.

*Answer.*—Florence Nightingale was the daughter of an English gentleman, and was born when her parents were in Florence, Italy, in 1820. From her childhood she showed much sympathy with schemes of benevolence, and when she became a woman was greatly interested in hospital management. In 1849 she entered the hospital at Kaiserwerth, Germany, to qualify herself as a nurse. The Crimean war having broken out soon after her return to England, Miss Nightingale, with a staff of volunteer nurses, set out in 1854 for the East, where, in the military hospitals at Scutari, they devoted themselves to the care of the sick and wounded soldiers. In face of great discouragements Miss Nightingale made her hospital a model for thoroughness and perfection of



arrangements, and all the other hospitals on the Bosphorus were soon placed under her superintendence. She suffered a severe attack of hospital fever, and returned to England in September, 1856, with broken health, which has never been fully restored. The Queen sent her a jewel and a letter of thanks for her noble services to the army, and the soldiers made contributions to raise a statue in her honor, which she would not permit. Soon after this a fund of £50,000 was raised with which a training school for nurses was founded and placed under Miss Nightingale's direction. She has written a number of excellent brief works on the subject of nursing.

#### THE REIGN OF TERROR.

YORK, Neb.  
Give an account of the French Reign of Terror.  
W. H. LACEY.

*Answer.*—This was the name given to the administration of Robespierre during the French Revolution. In 1793 the convention vested the government in a "committee of public safety," which was given in effect an absolute power over all persons and property. The committee was at first controlled by Marat, Danton, and others, but on the death of Marat Robespierre came into prominence as the leader of the Terrorists. Every one supposed to be hostile to the new government was seized and thrown into prison. Louis XVI. had already been put to death. On Oct. 16, 1793, the beautiful and amiable Marie Antoinette, after being subjected to every possible indignity, was beheaded; the Princess Elizabeth sharing the same fate May 10, 1794. Oct. 31, 1793, the Girondists, a party of able men, who, while in favor of a republic, had dared to protest against the crimes committed by the revolutionists in the name of liberty, were, to the number of twenty-two, guillotined. The calendar was remodeled and the Christian religion formally abolished. Robespierre, now becoming more absolute in power, set himself to destroying the other terrorists, who had raised him to his eminence. First the Hebertists, as a party of the most violent revolutionists were called, were proscribed and twenty of them guillotined March 24, 1794. Then Danton, Robespierre's rival, and his especial followers, were seized, and the convention, through fear of Robespierre, passed on them the decree of death. The government was now in the hands of a triumvirate, Robespierre, St. Just, and Couthon, and the convention, or assembly, abjectly assented to every decree they made. The guillotine was their only instrument of government; no life was safe for a day: a look or gesture might arouse suspicion, and suspicion meant death. During the seven weeks that this dreadful state of affairs continued 1,500 persons were guillotined in Paris alone, and hundreds were put to death in other parts of France by order of the triumvirate. But when a decree was passed abrogating every legal delay to protect an accused person, the reaction set in. Robespierre, July 26, demanded a reorganization of the committee of public safety, and for the first time the convention refused to accede to his demands. This gave his enemies opportunity

to turn against him, and in a day his absolute power was gone. He was arrested July 27, and the next day he and a number of the other leaders of the terror were guillotined on the same spot where their victims had suffered. With his death the bloody reign of terror ended; and more, this act of justice ended the rule of the worst element in Paris, and the more intelligent citizens began to regain the share of influence of which they had been so long deprived.

#### CHARING CROSS.

PUTNAM, Conn.  
How, when, and by whom was Charing Cross, England, erected?  
L. W. H.

*Answer.*—When good Queen Eleanor, as she was called, was on her way to join her husband on his expedition to Scotland, she died at Grantham in November, 1290. Her body was conveyed to Westminster for burial, and at each place where the funeral procession halted a richly carved memorial cross was subsequently erected. Queen Eleanor, for her amiability and generosity, was warmly beloved by the people. One of these memorial crosses was at Charing. It remained until 1647, when it was destroyed as a monument of popish superstition. The present cross at Charing was erected for the Southeastern Railway Company in 1865.

#### THE BERMUDA ISLANDS.

RISEING CITY, Neb.  
Give a sketch of the Bermuda Islands, their topography, products, government, history, and other items of interest concerning them.  
W. A. BALDWIN.

*Answer.*—The Bermudas are a group of small islands belonging to Great Britain, situated in the Atlantic Ocean, 580 miles southeast of Cape Hatteras. The group is formed upon a coral reef, and is eighteen miles in length and six in greatest breadth. The group contains nearly 400 islets, most of them being mere points of rocks, and not more than twelve of them are inhabited. The area of their entire surface is not more than 12,000 acres. Bermuda, the largest island, is 16 miles long and about one and a half miles in width. The other principal islands are: St. George's, Ireland, Somerset, and St. David's. The islands are nearly surrounded with hidden coral reefs, making approach to them difficult, but there are several good harbors. St. George's Isle, the military station of the colony, commands the entrance of the only passage for large vessels, which is defended by strong batteries. The climate of the islands is peculiarly delightful, the thermometer ranging from 60 to 66 degrees Fahrenheit in the winter season, and from 83 to 86 degrees Fahrenheit in the heat of summer, and the air is moist at all times. The soil is fertile, and vegetation remains green through the entire year. The chief productions of the islands are arrowroot, coffee, cotton, garden vegetables, and fruit. A fine quality of rum is also made and exported. Cedar trees grow abundantly, and their wood is exported and also used in the manufacture of the small, swift vessels with whose aid the islanders visit one another for business or pleasure. The fisheries of the islands are very valuable. There are no fresh-water streams or wells on the islands, but rain-water, caught in cisterns, is used for all purposes. The only large

towns are Hamilton, situated on Bermuda, and St. George, on the isle of the same name. The Bermuda Islands were discovered in 1522, by Jean Bermudez, a Spaniard, who was wrecked on them. Sir George Somers was also wrecked here in 1609 on his way to Virginia. He continued his journey after repairing his vessel, and the glowing description which he gave of the islands induced a colony from Virginia to emigrate thither in 1611. The group was first called Somers' Islands, but later the name was changed in honor of its first discoverer. In 1614 a colony from England settled on the islands under a charter from James I., and in 1640 a regular government was established there. During the civil war many persons of position and wealth took refuge on the islands, and the colony became large and prosperous. The government of the Bermudas consists of a governor and council appointed by the Crown, and an assembly of 36 members elected by the people. The population, according to the census taken in 1881, is 13,948 inhabitants, of whom about 6,000 are white people. There was a penal colony established here early in the century, but it was given up in 1862. There are a number of schools and churches on the islands, and the white persons resident here are possessed of much wealth and refinement.

#### THE BRADLAUGH CASE.

OTSEGO, Mich.  
In what manner was Charles Bradlaugh admitted as a member of Parliament? Give a short sketch of his case.  
H. H. FRENCH.

*Answer.*—Mr. Charles Bradlaugh was returned as member of Parliament from Northampton in 1880. When Parliament met in April of that year Mr. Bradlaugh, as an atheist, claimed the privilege of making an affirmation instead of taking the oath. The question of granting this privilege was referred to a committee, which decided that the oath could not be dispensed with in this case. Mr. Bradlaugh then came forward and offered to be sworn, when a resolution was offered declaring that he should not be allowed to take the oath, but as this was rejected the case was again referred to a select committee, which at last decided adversely for Mr. Bradlaugh's claim. The House then debated the question for two days, and then decided that Mr. Bradlaugh should not be allowed to take the oath. On the next day, Mr. Bradlaugh again pressed his claim to be sworn, which was denied, and he was ordered to withdraw. He declared this order contrary to law, and refused to obey it, and was therefore taken into custody. Soon after this Mr. Gladstone moved a resolution declaring that any person duly elected a member of the House of Commons, who might claim the right of affirmation, should be allowed the right without question until the matter had been decided by the courts. This resolution was adopted, and Mr. Bradlaugh was allowed to make his affirmation and take his seat, which he held until March 18, 1881. The judicial decision was then made public, which declared against Mr. Bradlaugh's claim to hold a seat in Parliament. The seat was then declared vacant,

but at the election which occurred in the following month, Mr. Bradlaugh was again elected. This time he came forward to take the oath, but before it could be administered Sir Stafford Northcote offered a resolution forbidding the "act of profanation," and in spite of an earnest plea of Mr. Bradlaugh in his own behalf, declaring that the essential part of the oath was fully binding on his conscience, this resolution was carried. Mr. Bradlaugh was then ordered to withdraw, and refused to do so, and was pushed back with force. Subsequently the same scene was enacted several times, until his expulsion was proposed because he "disturbed the proceedings of the House." Aug. 30, on trying to force his way in, he was seized by the police and carried out. On the meeting of Parliament in 1883, Mr. Bradlaugh was on hand again. Sir Stafford Northcote was also on hand, and again moved that he be not allowed to "go through the form of repeating the words of the oath." But Mr. Bradlaugh, after having made many fruitless attempts, one day walked in, advanced rapidly to the table, drew a copy of the New Testament from his pocket, recited the words of the oath, and handed his formula to the clerk. He was not allowed, however, to retain his captured seat, but was expelled. Being elected again, with an increased majority, he again, in 1884, renewed his attempts to take his seat, but they were all thwarted, as before. A bill was brought forward to allow members who objected to the oath to substitute for it a simple affirmation, but this was defeated. Mr. Bradlaugh pleaded his own cause before the bar of the House with eloquence, but gained nothing except a suit against the Sergeant-at-arms for ejecting him by force. Enormous penalties were declared against Mr. Bradlaugh for unlawfully holding a seat in the House of Commons, but it was decided that no one but the Crown could sue for these, and of course the Crown declined to act in the matter. Mr. Bradlaugh, however, has won his seat. Being re-elected by a large majority in November, 1885, he went up with other new members and took the oath, and no objection was made to it.

#### KNOW-NOTHING RIOT IN 1844.

MICHIGANTOWN, Ind.  
Give an account of the riot which occurred in Philadelphia about 1844.  
JOHN S. HEDGECOCK.

*Answer.*—One day in May, 1844, a political meeting was held by the Know-nothing party, in Kensington, a district of Philadelphia, in the open air. A shower coming up the meeting adjourned to a market which was directly opposite a large house filled with foreigners. From this house a gun was fired into the crowd, which became excited, and returned shots and missiles. For two whole days there was a perfect reign of terror in the city. A Romanist female seminary was destroyed. Houses were pillaged and burned and people hung by the furious mob. Thirty buildings in all were demolished, including two beautiful churches; fourteen persons were killed, and thirty-nine wounded. The city authorities were overawed and could do nothing to check this extravagant fury. At last martial law was



proclaimed, and the United States troops succeeded in restoring order to the city.

## STANDARD WEIGHTS AND MEASURES.

What is the standard of our weights and measures?  
 S. F. BLACKMAN.

*Answer.*—The weights and measures in use in the United States were derived from Great Britain. The origin of the British weights and measures is involved in considerable obscurity. The earliest recorded reference to them is to the effect that they must be uniform throughout the realm. A more explicit statute of 1226 founds the measures of capacity upon weight. In 1266 a statute founded measures of weight upon determinate numbers of wheat-corns. Besides, at that time, the units of commercial weight were also units of coin weight. It is related that "an English penny, called a sterling, round and without any clipping, shall weigh thirty-two wheat-corns in the midst of the ear, and twenty-pence do make an ounce, and twelve ounces one pound, and eight pounds do make a gallon of wine, and eight gallons of wine do make a London bushel, which is the eighth of a quarter." The pound thus determined, known as the tower pound, or the sterling or easterling pound, continued to regulate the metrological system of England down to 1496, when it was superseded for this purpose by the troy pound; it was a pound of fifteen ounces, each ounce being equal to 360 troy grains, or to three-quarters of a troy ounce. It is in dispute as to what period the troy and avoirdupois pounds were introduced into England. As to the origin of measures of length, it is stated that the earliest legislation found in the British statute books is in 1324, and provides that the inch shall be the length of three barley-corns, round and dry, laid end to end; that twelve inches shall make a foot, and three feet a yard. This form of words, "round and dry," was intended to indicate that the seeds should be fully developed, perfect, and well seasoned. Before the conquest, the British yard had about the length of 39.6 inches, but it was reduced in 1101 by being adjusted to the arm of Henry I., but this became untrustworthy, and then came the barley-corn measure.

## BRAZIL.

PENROSE, Ill.

Will Our Curiosity Shop give an account of Brazil?  
 JOHN GUINTELL.

*Answer.*—It is difficult to give any one anything like an intelligent idea of Brazil in the limited space at command. The area of Brazil is 3,218,166 square miles, or larger than Canada, and nearly as large as the United States. The population, according to the last census, was 10,108,291, negroes, mulattoes, and Europeans, besides about one million aboriginal Indians. There are about one million five hundred thousand slaves. Education is very restricted. The two great rivers are the Amazon and the Plata, which are the Mississippi and the St. Lawrence of South America. Railroads and telegraphs are only begun, but that is encouraging, and a cable extends to Portugal. The mineral treasures include gold, silver, copper, diamonds,

coal, iron, lead, salt; cotton, coffee, cocoa, sugar, and tobacco are abundant; many drugs are exported. The climate of so extensive a country is very varied; there are two seasons, the wet and the dry, in the lowlands, and in the extreme south there are four seasons quite well marked. The varieties of animal life are very great, the wild beasts being large and fierce, as the jaguar, the tiger-cat, the puma, the ocelot, the red wolf, and the Brazil fox or wild dog. There are large herds of peccary, and also tapira, with various deer, ant-eaters, and sloths, and monkeys without number. Birds are numerous, and have gorgeous plumage. Serpents are in great varieties. The most important domestic animals are the horse, ox, and sheep. The streams abound in fish; the supply of turtle in the Amazon and its tributaries appears inexhaustible. The constitution of Brazil dates from 1824, and establishes four powers of government—the legislative, executive, the judicial, and the moderating power, or royal prerogative. There is a Senate and a Chamber of Deputies, and restrictions are placed upon the ballot. Roman Catholicism has a strong hold there, but all other forms of religion are tolerated. Great progress has been made during the past sixty years, but, of course, much more remains to be done.

## THE WOMAN'S RELIEF CORPS.

MCINDOES, Vt.

When did the Woman's Relief Corps originate, and where and by whom was the first corps formed? Give a brief history of the organization.

J. M. SUTHERLAND.

*Answer.*—The nucleus of this grand organization seems to have been formed about 1862, in connection with Bosworth Post, G. A. R., of Portland, Maine. This society was supplemented with others in different towns of the State, and finally grew into a State organization called the Woman's Relief Corps of Maine. The Bosworth society was also instrumental in organizing the Woman's Relief Corps of Massachusetts early in 1879, from which emanated the Union Board. The last named organization ultimately came to embrace the States of Massachusetts, New Hampshire, and Connecticut, and at the convention at Denver, Col., in July, 1883, became the basis of the National Association. Meanwhile, the work had been started at the West by the efforts of Mrs. Kate B. Sherwood, of Toledo, Ohio. In 1877 this lady interested a number of her sex in the relief of the Grand Army, and an entertainment was held which netted \$1,500 to the relief fund of Forsyth Post. To continue this relief work Mrs. Sherwood urged the formation of a society, and March 15, 1878, Forsyth Post Ladies' Society was organized. This auxiliary became the great missionary center for the extension of woman's work in the Grand Army, and when the Denver convention met, 140 auxiliaries, in nine States, had been organized through the direct efforts of the President of the Toledo society, Mrs. Sherwood. At Denver, when the proposition of forming a National union of these auxiliary societies, East and West, was made, there was some difference of opinion as to the form of

the work. The Grand Army delegates generally favored the plan of secret work, but the ladies of the auxiliaries had been carrying on their work without any service, signs, or secret forms. Mrs. Sherwood, as representative of the independent auxiliaries, proposed that these bodies should lay aside their plan of work and accept secret work, on condition of the eligibility of all loyal women. She then proposed that the form of work of the New England board should be adopted, as it conformed more nearly than that of any other to the work of the Grand Army. On this basis a National organization was perfected. The officers of the New England board were made officers of the National association. Mrs. Sherwood was made senior Vice President, and given special jurisdiction in the West. According to the report of June, 1885, the corps includes twenty-five departments, with a membership of 20,226, and 472 auxiliary corps. The organization works under a ritual, with signs and pass-words. Its badge is the Maltese cross.

#### GEOMETRY.

CHESTER, Vt.

Please give a brief history of geometry.

F. J. DORAND.

*Answer.*—The origin of this science is ascribed to the Egyptians, who, having their landmarks annually washed away by inundations, in efforts to devise a plan for readily restoring them, discovered the principles of geometry. From them Thales of Miletus, one of the "seven wise men" of Greece, is said to have learned the elements of the science. He introduced it into Greece about 600 B. C. Pythagoras, half a century later, having also learned the science of the Egyptians, enriched it by the proposition which still bears his name, to-wit, that the square described on the hypotenuse of a right-angled triangle is equal to the sum of the squares on the other two sides. Plato, about 390 B. C., invented the study of conic sections, and through these and the use of the analytic method of demonstration, he made great advances in the science. The elements of geometry were compiled by Euclid, 280 B. C. This author introduced a device of reasoning that has been found very useful where neither direct proof (the synthetical method) or the analytic method could be readily used; it consists in proving the truth of a proposition by assuming its contrary as truth and showing that this implies a logical absurdity. Apollonius was a geometer who lived about 280 B. C., and whose work in the science has not been surpassed by the most brilliant achievements of others since. Archimedes, a contemporary of Apollonius, first inscribed polygons in circles. Hipparchus, in the second century before Christ, and Ptolemy in the second century after Christ, applied mathematics to astronomy. From about 550 to 1000 A. D., during the darkness of the middle ages, the science made no advance, and was little studied. Vieta, who lived from 1540 to 1603, revived the ancient geometry. The demonstrations of Kepler, Roberval, and Pascal in the seventeenth century greatly stimulated geometrical investigation. But to

Descartes, who published a volume of geometrical problems in 1637, the world owes chiefly the invention of analytic or modern geometry. Newton discovered the differential calculus in 1665. In 1799 the first descriptive geometry was published in Paris by Professor Monge.

#### PLATÆA.

WEAVERS FORD, N. C.

Give as full a history as space will admit of the little State of Platæa, that sent all of its soldiers to the aid of the Athenians at Marathon. S. L. PERKINS.

*Answer.*—Platæa was one of the oldest cities of Greece, as it is mentioned by Homer. It was situated in Boeotia, at the foot of Mount Cithæron, about seven miles southwest of Thebes. The Thebans claimed to have founded the city, and therefore to hold some control over it, but the Platæans were unwilling to acknowledge this supremacy, and formed an alliance with Athens. Platæa sent 1,000 of its citizens to the help of the Athenians in the battle of Marathon—490 B. C.—and ten years later the Persians, in revenge for this, destroyed the city. In the following year, 479 B. C., it was the scene of the glorious victory won by the Lacedæmonian Greeks, under Pausanias and Aristides, over the Persian hordes commanded by Mardonius—a victory that delivered Greece, once for all, from the threatened rule of Persia. For the victory gained on their soil, the confederate Greeks granted to the Platæans eighty talents, and charged them with the duty of paying annual honors to the tombs of the fallen warriors, and of celebrating every five years the festival of the Eleutheria, and in return the independence of their territory was guaranteed. In 429, however, the city was attacked by a force of Thebans and Spartans, and though defended by no more than 480 men it held out for two years, until starvation forced them to surrender. Nearly all of the heroic defenders then alive, about 200, were put to the sword and the city was razed to the ground. A few Platæans, however, escaped and were received hospitably at Athens. By the treaty of Antelcides, in 387, the children of these fugitives were allowed to go back again and rebuild their city, but it was again destroyed by its implacable enemies, the Thebans. The victory of Philip of Macedon at Chæronea in 338 enabled the Platæans to again return and build their homes. The city is mentioned by Hierocles in the sixth century as one of the cities of Boeotia. Its ruins can still be traced near the modern village of Kokia.

#### SIXTH MICHIGAN INFANTRY.

ONAGOA, Ill.

Give a sketch of the Sixth Michigan Infantry.

W. S. MOORE.

*Answer.*—The Sixth Michigan was mustered into service at Kalamazoo, and left that place for the Potomac Aug. 30, 1861. It was camped at Baltimore for some months, then sent to Ship Island, Miss., and embarked from the latter place for New Orleans April 4, 1862, and was one of the first regiments to enter that city when it was taken by the Federal troops. It was in the battle of Baton Rouge, Aug. 5, where it lost 62 in killed, wounded, and missing. Subsequently it was stationed at Metairie Ridge till December, when it was sent on to New Orleans. It took



part in the expeditions to Bayou Teche and Ponchatoula, and in the summer of 1863 participated in the siege of Port Hudson. July 10, 1863, by an order from General Banks, the Sixth was made a regiment of heavy artillery, to retain its infantry number, but to have the organization pay and equipment of the artillery troops. It was stationed at Port Hudson till March 11, 1864, then re-enlisted, and after its return from veteran furlough was stationed at Morganza and other points until the autumn, when it was sent to Fort Morgan, but arrived too late to take part in the capture of this point. Part of the regiment shared in the expedition of General Granger against Mobile. In July the regiment returned to New Orleans, and Aug. 20 was mustered out and sent home.

#### SETTLEMENT OF THE THIRTEEN COLONIES.

CARTERVILLE, Ill.

1. Give the date of the first settlement of each of the thirteen colonies, place, and by whom settled. 2. Give the colonial forms of government of each colony from date of settlement until the revolutionary war.

W. F. KEASTER.

*Answer.*—1. The first permanent settlement in the colonies was the settlement at Jamestown, Va., by the English in 1607, under Captain John Smith. Massachusetts was first settled at Plymouth by a company of Separatists from England. They landed Dec. 21, 1620. New York was first settled by the Dutch, who established a colony on Manhattan Island in 1623. They called the colony New Amsterdam, but it received the name New York when taken possession of by the English in 1664. Delaware was first permanently settled by the Swedes, who built a fort near the mouth of Christiana Creek in 1638. The Dutch had established a colony before this in 1630, near Lewes, but the Indians had destroyed it. They continued to lay claim to the country, however, and conquered the Swedish settlement in 1655, and it passed also into the hands of the English in 1664. The first settlement in Pennsylvania was also made by the Swedes, who planted a little colony at Chester in 1648. The settlement of the colony proper, however, began in 1681, with a colony sent out by William Penn, who brought another company himself in the following year. Their first settlement was on the site of Philadelphia, this city being laid out and named by Penn in 1683. The first settlement in New Jersey was made at Elizabeth in 1664 by Puritans from Long Island. The first settlement of New Hampshire was made by the establishment of two fishing stations at Portsmouth and Dover in 1623 by Massachusetts colonists. Connecticut was first settled by immigrants from Massachusetts at Wethersfield in 1634. The Saybrook colony sent out from England settled at the mouth of the Connecticut River in 1635. Rhode Island's first settlement was at Providence in 1636 by Roger Williams, who had been driven by persecution from the Massachusetts colony. Settlement was begun in Maryland in 1634 by Leonard Calvert, a brother of Lord Baltimore, who founded a colony near the mouth of the Potomac and called it St. Mary's. These settlers were Roman Catholics who had fled from persecution in England.

The first settlement in North Carolina, by an English colony sent out by Sir Walter Raleigh in 1585, had been a failure. A small colony from Virginia had pushed down the coast and settled the northern shore of Albemarle sound, about 1648, but the first colony proper was formed by a company from the Barbadoes, which settled near the Cape Fear River in 1665. South Carolina had also an early settlement by the French, at Port Royal in 1562, which proved a failure. A permanent settlement was made by an English colony near the mouth of the Ashley River in 1670. Georgia's first settlement was by an English colony under James Oglethorpe in 1733.

2. The governments of these colonies had each certain peculiarities, but they may all be divided for convenience into three classes—the charter colonies, the proprietary colonies, and the royal colonies. The charter colonies were Massachusetts, Rhode Island, and Connecticut. These had charters from the King, which gave them the power to elect their own officers and govern themselves. James II. succeeded in altering the charter of Massachusetts so as to take from the colonists the election of their principal officers. The attempt was made to deprive Connecticut of her charter at the same time, but it failed. The proprietary colonies were Maryland and Pennsylvania (including Delaware). These were given by the King to proprietors or owners who formed governments in them, gave charters to the colonists, defining their privileges, and appointed governors for them. The royal colonies were New Hampshire, New York, New Jersey, Virginia, North Carolina, South Carolina, and Georgia. These had no charters, and their governors were appointed by the King. Nearly all of them were proprietary governments for a short time at first, but were given up by the proprietors because of the difficulty of sustaining them.

#### CARRIER PIGEONS.

MONTPELIER, Ohio.

Tell how carrier pigeons are trained to make long journeys, and when they were first trained for this purpose.

W. W. KUNSMAN.

*Answer.*—It is not known with what nation the use of the carrier pigeon originated, but there is no doubt that the custom is very ancient. The Romans used the birds for this purpose, and Sir John Mandeville, one of the earliest travelers from Europe to the orient, states that he found them used in the same way among the Asiatics. We have the assertion of the poet Tasso for believing that they were so employed during the siege of Jerusalem in 1099, and it is an undoubted historical fact that they were used during the crusade of St. Louis in 1250. The most remarkable instance of the use of carrier pigeons in modern times, was during the siege of Paris, in 1870. They have been more generally used in Turkey than in any other country for many centuries, and the art of training them is understood to be carried to its greatest perfection there. The trainer takes the pigeons when they have acquired full strength of wing in a covered basket to a distance of about half a mile from their home; here they are set at liberty and thrown into the air, and if any fail in returning

home from this short distance they are regarded as naturally stupid, and no time is wasted in endeavoring to train them. Those that do come home are trained by being taken to greater distances, progressively increased to forty or fifty miles. When the bird is able to accomplish this flight he may be trusted to fly any distance overland, within the limits of physical power. This drilling must be begun very early, or even the best breeds of birds will not become good carriers. It is the general plan to keep the birds in a dark room for some hours before they are used. They are then fed sparingly, but are given all the water they can drink. The paper on which the message is written is then carefully tied round the upper part of the bird's leg or to one of the large feathers of the tail, so as not to impede its flight in any way. The feet are washed in vinegar to keep them from getting too dry during the bird's flight so as to tempt it to descend to water and run the risk of getting its message wet. The ordinary rate of flight for a carrier pigeon is from twenty to thirty miles an hour, though instances of much more rapid flight are on record. The pigeon, when thrown up into the air, at first flies round and round. This is evidently for the purpose of sighting some landmark that it knows. When this is perceived the bird instantly flies toward it, and as other familiar landmarks come gradually into sight, continues its journey on till its home is reached. If no landmark is perceived the bird is bewildered and lost and finally returns to the earth again.

#### ATLANTIC CABLES.

HENNEPIN, Ill.

How many Atlantic cables have been laid, and when were they severally completed? What points do they connect? Tell something of their history. R. T. O.

*Answer.*—The first permanent Atlantic cable was laid in July, 1866, from Valentia Bay, Ireland, to Trinity Bay, N. F. In September, of the same year, a cable lost by an unsuccessful attempt in 1865 was recovered, and its laying completed, thus making two lines between the two points named. These lines constituted what was known as the Anglo-American Cable, managed by a company of the same name. In 1868 the French Atlantic Telegraph Company was formed, and the following year it laid a line from Brest, France, to Duxbury, Mass. The fourth Atlantic telegraph cable was laid from Valentia, Ireland, to Heart's Content, Trinity Bay, Newfoundland, in the summer of 1873, and a few months later the Brazilian telegraph cable was laid from Rio de Janeiro, Brazil, to a bay on the coast of Portugal. In 1874, the Direct United States Cable Company was formed and laid a line from Ballenskillige Bay, Ireland, to Rye, N. H., via Nova Scotia. The same year a sixth line across the Atlantic was laid from Ireland to Newfoundland. Another French line was laid from Brest to St. Pierre, an island in the Gulf of St. Lawrence, in 1880. The companies owning all these lines having formed a combination and pooled their receipts, to keep up rates on the transmission of messages, a competing company was formed by James Gordon Bennett and the millionaire Mackay. This laid in 1884-85 two

lines from Ireland to Nova Scotia, having also a connecting line from Ireland to France.

#### VARIETIES AND SPECIES.

OSHTUMWA, Iowa.

In your account of the goat you speak of species and varieties. What is the difference between the two terms? FANNIE MOFFAT.

*Answer.*—A species in natural history is a permanent class of existing beings, associated according to their distinctive attributes. They resemble each other in all essential characteristics which are capable of continued reproduction. A variety is a division under species, and includes individuals differing in some characteristics from the true type of the species, and capable of reproducing this difference for a certain period. An individual showing some unusual departure from the type, which does not reappear in his descendants, can not be classified as belonging to a variety. It is to be noted that varieties differ from species in being the result of outside influences, climate, food, and the like, and this by a sudden, rather than a gradual, development. Varieties, too, generally tend, when restored to conditions that are natural to the original species, to revert to the original type.

#### THE NAVY IN THE CIVIL WAR.

MOLINE, Ill.

Give figures showing how many ships, guns, and men were enlisted on the Union side during the Rebellion; also the number of vessels captured by the blockaders, and the captures of the Confederate privateers. WILLIAM G. MORRIS.

*Answer.*—Early in the war, six squadrons were established, which were maintained till the summer of 1865. These were the North Atlantic, South Atlantic, East Gulf, and West Gulf squadrons, and the Mississippi and Potomac flotillas. When the administration of Mr. Lincoln began, there were, according to the Naval Secretary's report, ninety vessels belonging to the navy. These vessels carried, or were designed to carry, 2,415 guns. Excluding vessels on the stocks, those used as stationary store-ships and receiving ships, and those not regarded as worth repairing, the available force included sixty-nine vessels, carrying 1,346 guns. During the four years of the war 210 vessels were built by the government, carrying a total of 1,675 guns. Of these, 67 were ironclad vessels with 209 guns. Besides these, 418 vessels were purchased by the government, at an aggregate cost of \$18,366,618.83. From 7,600 men in service of the navy in 1861, the number was increased to 51,500 in 1865, and the men at work in the Government Navy Yards were increased from 3,844 to 16,880. In January, 1865, there were in the six squadrons enumerated, 471 vessels carrying 2,455 guns. Four foreign squadrons, the European, the Brazilian, the East India, and the Pacific squadrons, were in operation, though, of course, but a small force of ships could be maintained at these distant points. From the beginning to the end of the war there were about thirty vessels of all descriptions fitted out by the South to prey upon the commerce of the North, and although but seven of them—the Sumter, Nashville, Alabama, Florida, Georgia, Tallahassee, and Shenandoah—were at all formidable, the operations of the fleet of privateers were very disastrous. Their captures of the merchant



marine vessels of the North comprised 4 steamers, 78 ships, 43 brigs, 82 barks, and 68 schooners—275 vessels in all, with an aggregate of perhaps 100,000 tons. On the other hand, the number of vessels captured and sent to the United States admiralty courts for adjudication from May 1, 1861, to the close of the war was 1,149. The number of vessels burned, wrecked, sunk, and otherwise destroyed during the war, by the Federal navy was 355. Nearly all the captures of value were vessels built in so-called neutral ports, and fitted out and freighted for the express purpose of running the blockade. The gross proceeds of property captured by the United States navy during the blockade and condemned as prizes amounted to about \$24,000,000. To which add \$7,000,000 as the estimated value of the 355 vessels destroyed, and we have a total of \$31,500,000 of property taken by our blockading squadrons, a very large proportion of which was property belonging to British subjects.

#### EARLY HISTORY OF WISCONSIN.

WITTENBERG, Wis.  
Would like to know something about the early history of Wisconsin.  
L. F. KLENKE.

*Answer.*—The soil of Wisconsin was first visited by white men when the company of Pere Mesnard, the French missionary, penetrated to the border of its wilds in 1660. In 1673 the explorers, Marquette and Joliet, went by way of the Wisconsin and Fox rivers to the Mississippi. The French laid claim to the country by right of first discovery, and the first settlers were French-Canadian hunters and trappers, who settled at Green Bay and Prairie du Chien. In 1763 all this territory was ceded to Great Britain, who held it until the acknowledgment of American independence in 1783. It was claimed by the State of Virginia as part of the Illinois country explored by George Rogers Clarke, but in March, 1784, was ceded by that State to the United States. Great Britain held several military posts in the Northwest till 1796, when the terms of Jay's treaty forced her to give them up. Wisconsin was included in the Northwest Territory until 1800, in Indiana Territory until 1809, in Illinois Territory until 1818. It was then attached to the Territory of Michigan, but was erected into a separate Territory in 1836, when Michigan became a State. The territory of Wisconsin embraced all the land now within the States of Wisconsin, Iowa, and Minnesota, and all of Dakota lying east of the Missouri and White Earth Rivers. In 1838 all of the territory west of the Mississippi River and of a line due north from the sources of that river to the international boundary line was taken to form the Territory of Iowa. As thus bounded, Wisconsin became a State in 1848. In 1849 a part of the State was separated to be added to Minnesota, leaving the boundaries of Wisconsin as now existing. The first Territorial Legislature met in 1836. Madison became the permanent seat of government in 1838. Wisconsin was admitted as a State into the Union in 1848. The settlement of Wisconsin began, as we have said, with the establishment of stations for trade by French

hunters and trappers from Canada. Green Bay was the first point permanently settled by white men. Milwaukee was made a trading post about 1804. Settlement progressed but slowly during the early years of the century. When organized the Territory contained a population of but 11,683, and was practically in possession of the Indian tribes. In 1850 it had 305,391 white inhabitants.

#### THE GAME OF FOOT-BALL.

BARTON, D. T.  
Give rules for laying out grounds and playing football.  
A. B.

*Answer.*—There are several sets of rules for this game. We give a summary of those adopted by the foot-ball association formed in England in 1863. A large park or common is best suited for the game, whose object is to drive the ball between certain bounds placed at opposite end of the ground—the game being played in the intervening space—and called goals. The goal is formed by two upright posts, between which, at the height of eight feet, a tape is stretched. The aim is to drive the ball between the posts below the tape. Two side lines, called goal-lines, are drawn from each of the goals, and the boundary of the playing-ground on each side is marked by a line called the touch-line. The opposing players take their positions opposite each other at different ends of the field. The game is decided by the number of goals won in a certain space of time, which is divided into equal parts, after each of which the players change ends. The game is begun by a place-kick—made by kicking the ball when placed on the ground—from the middle of the field. Holding the ball or carrying it from one point to another is forbidden, no player being allowed to use his hands at all, except the goal-keepers, who may protect the goal with their hands. Those desirous of becoming familiar with all the technical points and terms of this game should consult some college lad on the subject.

#### PRINTERS' INK.

GOLDEN CITY, Mo.  
How is printers' ink made?  
J. A. CHASE.

*Answer.*—A varnish is first made as a foundation for the ink. About ten gallons of linseed oil are set over the fire in a large iron pot; when it boils it is kept stirred with an iron ladle, and if it does not take fire of itself it is kindled by means of a piece of burning paper stuck in the cleft of a long stick. The pot is now taken from the fire and the oil allowed to burn for about half an hour, or until the varnish, cooled upon a knife, can be drawn out into strings; then the flame is extinguished by putting on a tightly-fitting cover, and when the froth of the ebullition has subsided black resin is added to the mass, in the proportion of about one pound to every quart of oil originally put into the kettle. The mixture is next stirred until the resin is dissolved and two pounds of dry brown soap cut fine are added slowly, the pot is placed over the fire again and the ingredients are stirred with a spatula until the whole has become a homogeneous mass; it is

then taken from the fire, stirred well, covered, and set aside. Before it is cool, two and one-half ounces of indigo and the same amount of prussian blue, in fine powder, are mixed with four pounds of the finest mineral lamp-black, and three and one-half pounds of vegetable lamp-black; these are stirred gradually into the warm oil varnish and the entire substance well ground, so that the powder may be thoroughly combined with the oil. Different grades of the foundation mixture or varnish, varying in consistence from more or less boiling, are made to be occasionally mixed together, for the ink which is of the proper consistency to print in hot weather becomes too thick in cold, and vice versa. Another kind of ink is made without boiling, using more soap and balsam of copaiba instead of oil, but this does not work as well as the ink made of oil.

#### LORD BACON'S "IDOLA."

Macaulay, in his essays, speaks of Bacon's classification of the "idola tribus." What are these three idols?  
A. O'NEILL, M. D.

*Answer.*—Bacon did not confine his list of the "idola," or shams or illusions worshiped by men, to three classes. The phrase used—idola tribus—uses the word tribus or tribe, in its generic sense, and signifies the illusions, shams, or idols of our common human nature, arising from common human infirmity. Another class of illusion he styled "idola fori," those of the vulgar masses, consequent upon the erroneous disposition—the wrongheadedness born of ignorance and superstition—of the mass of the people. Another class is the "idola theatri," the errors of the learned or superior classes, arising from a too-confident adherence to authority. Still another Bacon styles the "idola species," which includes the tribe of follies and illusions bred among the weeds and tares of individual brains, in other words the follies of "cranks."

#### THE ERIE CANAL.

Give history of the Erie Canal, its dimensions at first, and cost. What are its present dimensions?  
ELLA SNYDER.

*Answer.*—The Erie Canal, which connects the Hudson River at Troy and Albany with Lake Erie at Buffalo, was commenced in 1817, and completed in 1825. The construction of this canal was principally due to the efforts of De Witt Clinton, who in 1809 was a member of a commission appointed to survey a route for the proposed waterway. He headed a deputation, in 1812, which submitted the scheme to the General Government, but received no encouragement. When Clinton was made Governor, however, he succeeded in carrying the enterprise through as a State work. It was constructed through a country which was then a perfect wilderness, and was the most extensive public work that at that time had ever been undertaken in the United States. The canal was made forty feet wide at the surface, and twenty-eight feet at the bottom, with a depth of four feet, and its first cost was \$7,802,000. It was enlarged in 1862, and has now a breadth of seventy feet at the surface and fifty-six feet at the

bottom, and is seven feet deep. There are seventy-two locks, each 110 feet long and eighteen feet wide.

#### WESTMINSTER ABBEY—LINCOLN'S INN FIELDS

CHESTER, Neb.  
1. Give a brief history and description of Westminster Abbey. 2. What is Lincoln's Inn Fields mentioned in Dickens' works?  
SETH BURTON.

*Answer.*—1. Westminster Abbey was founded in the year 610 by Sebert, King of the East Saxons, but was destroyed by the Danes, and afterward rebuilt in 958 by King Edgar, and was again rebuilt and enlarged by Edward the Confessor in 1055, and magnificently rebuilt a third time by Henry III. in 1220. During the reign of Henry VIII. it suffered from neglect. The Puritans used it as a barracks for soldiers in 1643. It was restored to its former beauty by Sir Christopher Wren in the latter part of the seventeenth century. The Abbey is of Gothic design, built in the form of a cross, 400 feet long and 200 feet white. Its length, exclusive of Henry VIII.'s Chapel is 511 feet; extreme breadth at the transept, 203 feet; height of the nave, 102, and of the towers, 225 feet. Surrounding the east end of the chapel in a semi-circle are nine chapels, the most interesting of which are said to be those of Edward the Confessor, beyond the altar, and of Henry VII., forming the eastern extremity of the abbey. In the center of the former chapel is the shrine of Edward the Confessor. Other chapels are those of St. Benedict, St. Edmund, St. Nicholas, St. Paul, St. John, St. Michael, and St. Andrew. In these chapels are many handsome monuments. The monuments of Queen Elizabeth and Mary Stewart are in the north and south aisles of the chapel. The Poet's Corner is in the south transept. It would take a great deal of space to mention the many people buried in Westminster Abbey, or to describe the beautiful monuments. 2. Lincoln's Inn Fields is a square in the heart of London. Here the Earl of Lincoln, Henry de Lacy, erected a mansion in the reign of Edward I. It became an inn of court in 1310, and was known as Lincoln's Inn. The square adjoining the building was laid out in gardens about 1620 by Inigo Jones: it is 821 by 625½ feet. The square was inclosed with iron railings in 1737.

#### BENEDICT ARNOLD.

Give a brief biographical sketch of Benedict Arnold.  
GRAND LEDGE, Mich.  
GEORGIA A. DORRIS.

*Answer.*—Benedict Arnold was a native of Connecticut, where he was born in Norwich, Jan. 3, 1740. He joined the patriots soon after the Revolution broke out and was commissioned a colonel in the service of Massachusetts. In 1775 he led a force of about 1,000 men through the northern forest, with the intention of capturing Quebec. Gen. Montgomery's forces were joined by Arnold at the St. Lawrence, and the attack made, but it failed. Montgomery met his death there and Arnold was seriously wounded. Arnold became a Brigadier General, and 1776 was noted for the skill and courage displayed in a naval battle on Lake Champlain. Some writers suggest that Arnold was disappointed after this because he



was not made one of the first Major Generals; he became one in 1777. He was in the battle of Bemis Heights, and after that he quarreled with General Gates. He was a volunteer at the fight at Stillwater, without a command, and was distinguished for his daring. He was again wounded, and was forced to retire for several months. He commanded in Philadelphia in 1778, and, living extravagantly there, contracted debts. In 1779 he married the daughter of Shippen, afterward Chief Justice of the State. Charges were made against him and he was sentenced by court-martial to be reprimanded by the Commander-in-chief. Washington was very mild in his reproof. Arnold was very much chagrined. In August, 1780, he requested and was given command at West Point, then the most important fortress of the young republic, and this he offered to surrender to Sir Henry Clinton. The capture of Andre disclosed the plot of the traitor, and frustrated it. Arnold escaped to a war vessel of the British. He at once entered the British service, and commanded an expedition against Virginia. Near the conclusion of the war he went to England, where he met with no special marks of favor. He died in London in 1801, poor and despaired.

#### OUR FOREIGN POPULATION.

Give some figures showing the present percentage of foreigners in our population.

ONEIDA, Kan.  
CYRUS SHINN.

*Answer.*—The foreign immigration into this country has come in almost wholly since 1820. Between 1820 and the end of 1879, 10,138,758 immigrants landed on our shores. During the years 1880-85 this number has been increased by the enormous influx of 3,432,940 persons of alien birth and race. In 1880, the census showed 14,922,744 persons of foreign birth or having one parent foreign born. Of these, 6,679,943 were born abroad. Adding to these the immigration of the last six years, and taking no account of the probable increase in the families of these foreigners after their arrival here, we have in the foreign-born and their children a total of 18,355,684 individuals, or 36 per cent of the entire population. Of purely foreign-born there is a proportion of 20 per cent, or an aggregate of 10,112,883 persons. According to the census of 1880 the whole native American population, excluding persons of foreign birth and parentage, negroes and Indians, was 26,601,678. We may say then that the proportion of Americans in this country is reduced to little more than half the population.

#### JOHN O'GROAT'S HOUSE.

Give a sketch of John O'Groat's house.

OONONG, Ill.  
S. BECKETT.

*Answer.*—In the reign of James IV. of Scotland, John O'Groat and his two brothers, Malcom and Gavin, arrived at Caithness and bought the lands of Warsse and Dungsby, in the northeastern part of the shire. In time their families increased until there were eight households of the same name. They lived as neighbors in the greatest peace and amity, meeting once every year in the same house. At last the question of precedence arose among the younger members,

and they disputed as to who should sit near the head of the table or enter the room first. Old John O'Groat was made arbitrator of the dispute, and he promised that before their next meeting he would settle the question to the satisfaction of all. Accordingly he built an eight-sided room in which to hold the annual dinner with a door and window on each side, and a round table in the center of the room. The house was situated about a mile and a half west of the point of land called Dungsby or Duncansby Head, the extreme northeastern point of Scotland. The site of the house now shows only some grass-covered mounds.

#### THE MAYORS OF CHICAGO.

MANHATTAN, Kan.  
Who have been the Mayors of the city of Chicago.  
W. S. ELLIOT.

*Answer.*—The following is a list of the Mayors of the city of Chicago with the dates of their election:

Names.	Dates.
William B. Ogden.....	May 2, 1837
Buck S. Morris.....	March 6, 1838
Benj. W. Raymond.....	March 5, 1839
Alexander Lloyd.....	March 3, 1840
Francis C. Sherman.....	March 5, 1841
Benj. W. Raymond.....	March 7, 1842
Augustus Garrett.....	March 7, 1843
A. S. Sherman.....	March 7, 1844
Augustus Garrett.....	March 5, 1845
John P. Chapin.....	March 3, 1846
James Curtis.....	March 2, 1847
James H. Woodworth.....	March 7, 1848
James H. Woodworth.....	March 6, 1849
James Curtis.....	March 5, 1850
Walter S. Gurnee.....	March 4, 1851
Walter S. Gurnee.....	March 2, 1852
Charles M. Gray.....	March 14, 1853
Isaac L. Milliken.....	March 13, 1854
Levi D. Boone.....	March 8, 1855
Thomas Dyer.....	March 10, 1856
John Wentworth.....	March 3, 1857
John C. Haines.....	March 2, 1858
John C. Haines.....	March 1, 1859
John Wentworth.....	March 6, 1860
Julian S. Rumsey.....	April 16, 1861
Francis C. Sherman.....	April 15, 1862
Francis C. Sherman.....	April 21, 1863
John B. Rice.....	April 13, 1865
John B. Rice.....	April 16, 1867
Roswell B. Mason.....	Nov. 2, 1869
Joseph Medill.....	Nov. 7, 1871
Harvey D. Colvin.....	Nov. 4, 1873
Monroe Heath.....	July 12, 1876
Monroe Heath.....	April 3, 1877
Carter H. Harrison.....	April 1, 1879
Carter H. Harrison.....	April 5, 1881
Carter H. Harrison.....	April 3, 1883
Carter H. Harrison.....	April 7, 1885

#### TWENTY-SIXTH ILLINOIS INFANTRY.

CLAY CITY, Neb.  
Give a brief account of the Twenty-sixth Illinois Infantry, with a list of the regimental officers.  
R. J. WILSON.

*Answer.*—The Twenty-sixth Regiment was enlisted during the summer of 1861 from several counties. In August seven companies were sent forward to Quincy, Ill., which then feared an attack from Price's army. The others joined their comrades in January, 1862, and the next month the regiment was sent to join Pope's army. It was in the fights at New Madrid, Island No. 10, Farmington, and the siege of Corinth. In September it was with Grant's advance into Mississippi, and was at Iuka and the second battle of Corinth. It was at the siege of Vicksburg, at the second battle of Jackson, Miss., at Tunnel Hill, and Chattanooga. Jan. 1, 1864, the regi-

ment re-enlisted, being the first veteran regiment in the Fifteenth Army Corps. After veteran furlough it returned to Scottsboro, Ala. In May it entered upon the memorable Atlanta campaign, and was at Snake Creek Gap, Resaca, Dallas, Kenesaw Mountain, Nickojack Creek, and in all the fights before Atlanta. After that city surrendered, it marched to Eastport, and after three weeks' rest, was again on the march after Hood. It followed him to Little River, having several skirmishes, then rejoined Sherman and started on the march to the sea. Was in the fight at Bentonville, went to Washington for review, and then to Springfield, Ill., for muster out. The officers of this regiment when it entered the service were John M. Loomis, Colonel; C. J. Tinkham, Lieutenant Colonel; R. A. Gillmore, Major; S. A. Buckmaster, Adjutant; C. A. Nazra, Quartermaster. Colonel Loomis did not re-enlist, and Major Gilman was made to succeed him.

#### MORRISON, THE FOUNDER OF CHINESE MISSIONS.

Give a brief sketch of the life of Robert Morrison, missionary in China.

WITTENBERG, Wis.  
LOUIS F. KLENKE.

*Answer.*—The founder of Protestant missions in China, the Rev. Robert Morrison, D. D., was a native of Morpeth, Northumberland, of Scotch parents. He was born Jan. 5, 1782. He received his education at one of the Congregational colleges, and in 1805 was sent to Macao and Canton by the London Missionary Society, to master the Chinese language, and to translate the Bible into it. He reached Canton in September, 1807, and during the year following was appointed translator to the East India Company's factory at Canton. By the year 1814 he had completed the translation and printing of the whole of the New Testament. Four years afterward, by the help of Dr. Milne, the same work was done so far as to complete the Old Testament, and in 1822 he completed and printed his great Chinese dictionary, at an expense to the East India Company of \$15,000, or about \$75,000. He was engaged in various labors until 1818, he established an Anglo-Chinese college at Malacca, for English and Chinese literature and the spread of Christianity. In 1824 he returned to England with a collection of 10,000 books in the Chinese tongue. Two years after he returned to China. In 1834 he accompanied Lord Napier to Canton as interpreter, and died there Aug. 1. Dr. Morrison was also the author of several other important works. In 1839 his widow published a memoir of his life and labors.

#### GENERAL BRADDOCK.

Will the Curiosity Shop give a sketch of the life and services of General Braddock who was defeated by Indians in Pennsylvania in 1755? J. H. BARBER.

*Answer.*—Edward Braddock was born in Perthshire, Scotland, about the year 1715. He served with distinction in Spain, Portugal, and Germany, and in 1755 was sent to take charge of the war against the French in America. He was a Major General in the British army. It was the month of February, 1775, that he arrived at Richmond, Va., and with a force of 2,000 British and provincial troops he marched northwest with the expedition against Fort Duquesne, now Pittsburgh. He reached the Monongahela, a branch of

the Ohio, on July 8. Wholly unused to border warfare he was just the commander to suit and satisfy the French and their Indian allies whom he was sent to defeat and drive out of the country. Leaving the baggage behind, on July 9, his force moved forward to invest Fort Duquesne. General Braddock refused to take the advice of his American officers, who were familiar with the arts of their savage foe and his keen ally. The surprise which befel him had been predicted. The troops, in passing through a deep ravine, fell into an ambuscade of Indians, while they were attacked in front by the French, and half their number were slain. The remnant retreated under the leadership of Colonel George Washington, who twenty years later was the commander-in-chief of the patriot armies of the new United States. General Braddock was mortally wounded, and was conveyed by the retreating troops forty miles, when he died and was buried.

#### CHEVY CHASE.

Who was the author of the poem called "Chevy Chase?" CHICAGO.  
W. K. A.

*Answer.*—There are two versions of the border ballad, which is popularly known as "Chevy Chase; or, The Hunting of the Cheviot." The first is a ballad, very ancient, originally published by Thomas Hearne, an English antiquary, who lived from 1678 to 1735, and who performed valuable service to our literature while in charge of a library of ancient manuscripts, etc., at Oxford. Hearne reprinted "Chevy Chase" from the copy in the Ashmolean collection at Oxford, which was written by Richard Sheale, of Tamworth, who was a reciter of ballads and stories. The second version is a modernized version, supposed to be of the time of Elizabeth. The latter, although much inferior to the original, is a fine ballad, and is memorable from Addison's allusion to it in Nos. 70 and 74 of the "Spectator." He evidently had no knowledge of the original. Some of the most competent literary critics affirm that it is impossible to reconcile the incidents in "Chevy Chase" with history, but that the event which is meant to be commemorated appears to have been the battle of Otterburn, or Otterbourne, as it is sometimes written, which occurred in 1388. There are some who suggest that Sheale was the author, but it is believed that his share was in preserving it, thus surrounding it with more of the antique flavor than the Battle of Otterburn.

#### THE LORD MAYOR OF LONDON.

What is the salary of the Lord Mayor of London? PALO, IOWA.  
J. D. HAYES.

*Answer.*—It is stated that in 1692 the Lord Mayor of London received an annual sum of £100 for his care of the market, and an ancient fee of £80 out of the chamber. In 1692 the city markets were farmed for £3,100, the profit being £2,500; in 1785 their revenue was £15,631, the profit £2,621; in 1891 they were £152,816 and £20,911. The Lord Mayor now has an annual salary of £10,000 (about \$50,000), and in addition to this his personal expenses in 1891 amounted to £1,433.



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1887.

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## CURIOSITY SHOP

EDITED BY

THOS. C. MAC MILLAN.

INTER-OCEAN PUBLISHING CO. PUBLISHERS  
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THE INTER OCEAN

# CURIOSITY SHOP

FOR THE YEAR 1887.

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EDITED BY

THOMAS C. MAC MILLAN, A. M.

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## PREFACE.

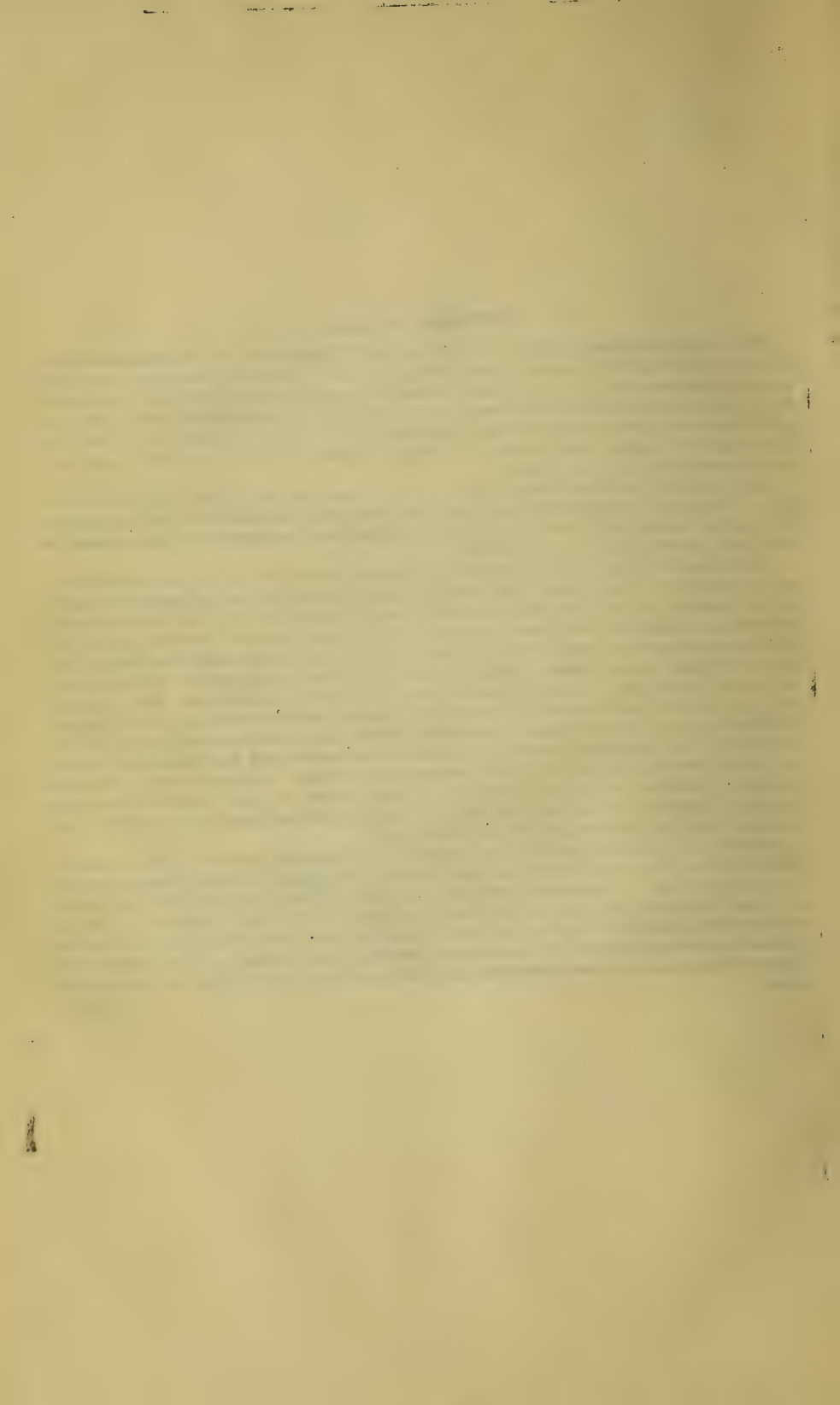
This is the tenth annual volume of THE INTER OCEAN'S publication of OUR CURIOSITY SHOP, and the eighth consecutive number of the stereotyped series. Editions of previous years have been repeatedly exhausted, and it has been necessary to reprint them to meet the popular demand. As in former volumes, this, the tenth yearly book, comprises the best materials which have been given large space in OUR CURIOSITY SHOP department in THE WEEKLY INTER OCEAN and THE INTER OCEAN of Saturday, and consists of answers prepared in reply to inquiries on many subjects addressed to THE INTER OCEAN.

Each of the ten numbers of OUR CURIOSITY SHOP in this form is distinct, separate and complete. There are no duplicated articles. Every one is essentially finished, the object being to use no materials a second time. It has thus come to pass that many inquirers have been referred to past yearly numbers for desired information.

The decennial volume of OUR CURIOSITY SHOP devotes special attention to certain subjects of every-day interest and importance. For example, special articles have been prepared and are given on the Canadian and seal fisheries, the Samoan Islands, Socialism in America, the development of all modern mechanical and other appliances, the principal events of historical and political significance in the several States and Territories, progress of the leading countries, such as Great Britain, Germany, France, Russia, China, India, and Egypt, an elucidation of the Bulgarian question, origin, growth, and present condition of various religious denominations, facts regarding astronomy, cyclones and tornadoes, with regimental histories, race records touching Jews, Coreans, Persians, Egyptians, Huns, Mongols, Zulus, Boers, Chinese and North American Indians, as well as prohibitory and sumptuary legislation, Nihilism, and references and contributions to history, art, science, theology, politics, etc., to the number of over 2,000. Among the articles of special cyclopedic value, we may mention the table of French rulers, the list of present rulers of the world, with political classification of the different countries, and the list of the coinages of foreign countries, with their equivalent in United States money.

Attention is called to the index. It is believed to be thorough and exact. The volumes of 1884, 1885 and 1886 contained indexes which located every reference on the *column* as well as the *page* of the book. This has been continued. Our readers have expressed their appreciation of this so frankly and frequently that its value, we believe, is universally esteemed. It may be added that the volumes for 1878 and 1879 have long been out of print, but all the eight numbers from and including 1880 until this one can be obtained on application of THE INTER OCEAN. These eight numbers have been stereotyped and purchasers can be furnished at the advertised rates.

T. C. M.





## OUR CURIOSITY SHOP

### REPUDIATION IN THE STATES.

HASTINGS, Neb.  
What Northern States repudiated their war debts, and did the government prohibit the Southern States from paying their debts caused by the war? Did any State ever repudiate its debt besides that incurred in the late war?

G. W. HILL,

Answer.—None of the Northern States have ever repudiated any part of the debt incurred in the prosecution of the war for the Union; but by the fourteenth amendment neither the United States nor any State has been permitted to pay any debt incurred in aid of "insurrection or rebellion against the United States," all such obligations being declared "illegal and void." There have been several instances of repudiation of other debts. In 1841 Indiana had incurred such heavy debts in her efforts to carry out gigantic internal improvement schemes that payment either of principal or interest became impossible. The bonds for the internal improvement loan, amounting to \$10,000,000, were therefore repudiated. Part of these bonds have since been paid by the State. In 1842 the failure of the Pennsylvania State Bank made it impossible for the State to meet the interest on an enormous debt contracted for the building of canals and railroads, and repudiation was adopted as the easiest way out of the difficulty. As these bonds were largely held in England, this action did more perhaps than any other one thing to prejudice English people against Americans. In Mississippi, a legislative act in 1837 incorporated a State bank, the "Mississippi Union Bank," and provided for the issue to it of \$15,500,000 of State stock. In 1838 another act changed the conditions of the first and provided for the immediate issue of \$5,000,000. This issue was subsequently objected to as unconstitutional. The question then became a political one, and repudiation was decided upon. A resolution passed in 1842 denied that the State was under any obligation, legal or moral, to redeem these bonds, and in 1875 a constitutional amendment was adopted forbidding any future provision for their redemption. The word repudiation originated in Mississippi. Governor McNutt in January, 1841, suggested in his message "repudiating the sale of the State bonds on account of fraud and illegality." The case of repudiation (so-called) in Michigan was a somewhat complicated one. In 1837 \$5,000,000 of the State bonds were placed

with the Morris Canal and Banking Company to put on the market. All their proceeds were to be expended in internal improvements. Part of the bonds were sold by this company under the first contract, and a new contract was then made by which the Morris Company became the purchaser of the rest of the bonds, and was to pay the State in installments, and the United States Bank of Pennsylvania became its surety. Before the bonds had been paid for the Morris Canal and Banking Company, and the United States Bank of Pennsylvania had both failed. As soon as this was known, the Legislature of Michigan passed a resolution declaring that the State was only bound to repay money actually received. The State tried to get something from the wreck of the banks, but failed; still she continued to claim that she was not bound to pay for bonds for which no consideration had been received, a position that caused much expression of indignation among bankers who had taken the State bonds from the Morris Company, in good faith, believing the State fully solvent. Illinois, like Indiana, found herself, in 1842, saddled with a debt of some \$13,000,000, incurred in making internal improvements. It was literally impossible to pay then, and suggestions and threats of repudiation were made, but subsequently every dollar of the Illinois debt was paid.

In the South, mismanagement and complications during the period of reconstruction, brought about several instances of repudiation. In North Carolina nearly \$3,000,000 of the State bonds were directly repudiated. These bonds had been issued by the reconstruction Legislature to build a railroad, and it was a well-known fact that the officers of the road engineered the scheme by which the bonds were issued. Two wrongs do not make a right; and no argument could justify the State's action in thus rejecting her own bonds, or in scaling down the regular debt, as was done about the same time to the amount of \$18,000,000. In South Carolina a similar course was taken. In May, 1871, an investigation into the finances of the State showed that the total debt was over \$20,000,000, and that of this amount over \$8,000,000 of contingent liabilities had been caused by the indorsement of railroads. There was no doubt that these debts were fraudulently in-

curred, and over \$14,000,000 of the total amount has been repudiated, to the great injury of the credit of the State. Georgia also, in 1877, declared \$9,000,000 of State bonds void, on the plea principally that the governor of the State had exceeded his power in sanctioning their issue. There was nothing to show that the bonds had not been bought in good faith, and this act on the part of a State of Georgia's resources was gravely condemned. Florida has always been in debt, even when a Territory, and never has tried to pay her debts. A debt of \$4,000,000, and interest arrears of \$5,000,000 more, were contracted by the Territory of Florida to various banks and insurance companies, and this debt has never been even recognized by the State. In 1870 the Florida Legislature issued \$4,000,000 in bonds to build a railroad. The court subsequently decided that the issue was unconstitutional, and neither principal or interest on them has ever been paid. In 1874 Alabama's debt was over \$31,000,000, and of this \$4,705,000 was in bonds that had been issued to railroads. The State Legislature refused to recognize the bonds, and neither their principal nor interest has ever been paid. Arkansas has had for some time a railroad debt of \$11,000,000. The court decided that the issue of the bonds was illegal. The question of paying them was submitted to the people at a popular election, and was defeated. Tennessee has also taken rank among the repudiators. Minnesota also had an issue of railroad bonds in 1858, concerning which there was always dispute. These were finally settled for in 1881 by payment of 50 cents on the dollar of the claim.

#### ST. PATRICK.

ONEIDA, Kas.

Give a history of the Irish saint, St. Patrick. O. S.

*Answer.*—St. Patrick, the patron saint of Ireland, is said to have been captured by Picts and Scots, during a raid upon the neighboring province south of the walls of Severus, about the year 411. The captive boy of 15 was sold as a slave on the opposite coast of Ireland in the territory of the Irish Picts. He was of noble birth, which is known both from his name and his own avowal. He came also from an educated race, as his father was the deacon Calpornius and his grandfather, Potitus, was a priest. It is conjectured that Patrick was born at Nemthur, which is identified with Dumbarton, on the Clyde, and when the Roman garrison was withdrawn his father returned to his country residence. The youth, Succat, or Patrick, remained in slavery for six years, tending cattle, probably in the County Antrim. It appears he was of enthusiastic temperament, devoted to prayer and meditation. He escaped from his captors to Britain, and it was after that that he determined to enter the priesthood and devote himself to the conversion of the Irish. He labored long among the barbarous people with whom he cast his lot, and at the age of about 45 he was made bishop. His work no doubt did much to prepare the way of other missionaries who went to Ireland and preached to the then benighted inhabitants. It

is not known definitely when he died. Ussher thinks that event occurred in the year 349, while others place it at 469, 471, or 474. Patrick's real name, according to tradition, was Succat, but in his own writings he calls himself Patrick. The fact that there were three Patricks has greatly puzzled Christian writers, and altogether there is much obscurity hanging over the entire subject.

#### WEST POINT ACADEMY.

STONY LAKE, Iowa.

Give a history of West Point Military Academy. B. S. TOWER.

*Answer.*—The United States Military Academy at West Point was founded by an act of Congress of March 16, 1802, constituting the Corps of Engineers of the army, a military academy with fifty students as cadets, who were to receive instruction under the senior engineer officer as superintendent. Later acts established professorships of mathematics, engineering, philosophy, etc., and made the academy a military body, subject to the rules and articles of war. In 1815 a permanent superintendent was appointed, and a year later an annual board of visitors was provided for, to be named by the President, the Speaker of the House, and the President of the Senate. In 1843 the present system of appointment of cadets was instituted, which assigns one cadet to each Congressional District and Territory in the Union, to be named by the Representative in Congress for the time being, and ten appointments at large, specially confirmed by the President of the United States. The number of students is thus limited to 343. A large proportion of those appointed fail to pass the examination, and many others to complete the course, the proportion being stated at fully one-half hitherto. The course of instruction requires four years, and is largely mathematical and professional. The discipline is very strict, even more so than in the army, and the enforcement of penalties for offences is inflexible, rather than severe. The whole number of graduates from 1802 to 1877 was about 2,700, of whom 1,200 are deceased, and about 1,500 are living. Of those surviving 800 are still in the army and about 700 out of the service. Appointees to "the Point" must be between 17 and 22 years of age, at least five feet in height, and free from infirmity, and able to pass a careful examination in various branches of knowledge. Each cadet must bind himself to serve the United States eight years from the time of admission to "the Point." The pay of the cadets, formerly \$50 per month and rations, was fixed at \$540 per year, with no allowance for rations, by the act of 1876. The Librarian of Congress furnishes the above information.

#### FAIRMOUNT PARK.

CHICAGO.

What is the size of Fairmount Park, Philadelphia, and a description? O. J. S.

*Answer.*—Fairmount Park, in Philadelphia, the largest city park in the world, extends along both banks of the Schuylkill River for more than seven miles, and along both banks of Wissahickon Creek, for more than six miles, commencing at Fairmount, an elevation on the



Schuykill from which the park derives its name, and extending to Chestnut Hill, on the Wissahickon, a total distance of nearly fourteen miles. The total area is 2,740 acres. The park possesses great natural beauty, being well wooded and having a great variety of surface. The main entrance to the park is at the lower end, and is reached by horse-cars from all parts of the city. Just inside on the right is Fairmount Hill, on the summit of which are four reservoirs of the Schuykill Waterworks, covering six acres, and surrounded by a graveled walk, from which may be had a fine view of the city. There is a statue of Abraham Lincoln, a colossal bronze, in the park, and some of the other objects of interest are the following: Lemon Hill, on which is the mansion in which Robert Morris lived during the Revolution; Sedgely Hill, the Solitude, a villa built in 1785 by John Penn, grandson of William Penn; the Zoological Gardens, Belmont Glen, a picturesque ravine, the various bridges across the Schuykill, and the romantic drives up the Wissahickon. The grounds on which the Centennial Exhibition of 1876 was held are located in the park, and among the buildings which remain of that notable exposition is one Memorial Hall. This was erected by the State and city at a cost of \$1,500,000, is 365 by 210 feet, is of stone, and a splendid edifice. Horticultural Building is a charming structure in the Moresque style, with polychromatic frescoes and arabesques, and around it are thirty-five acres of ground devoted to horticultural purposes.

## ST. CUTHBERT.

CHICAGO.

Please tell something about St. Cuthbert, who is mentioned in the early history of England.

R. E. M.

*Answer.*—St. Cuthbert was a missionary in Britain in the seventh century. He is believed to have been a native of Northumbria, and early in life he became a monk in Melrose Abbey. Later he was for a number of years a prior in the abbey at Lindisfarne. After this he spent several years in a hermitage, which he left to become Bishop of Lindisfarne, in 685. His health failing, he went into his retreat again, where he died March 20, 687. While Cuthbert was connected with the religious houses mentioned, his entire time was given to missionary work. He traveled all over Northern Northumbria, and converted great numbers to Christianity. His fame was very great among the people in this locality, and many miracles were believed to have been worked by his remains. Throughout the middle ages his shrine was a great resort for pilgrims.

## SCREWS AND SMALL NAILS.

BURETON, Kan.

How are screws made? also nails, large and small?  
J. BLANCHARD.

*Answer.*—Screws were little known or used before 1836, being rudely made by hand with imperfect tools. The head was forged or swedged up by a blacksmith, and the thread and nick were formed by the use of hand-dies and files. In 1836 American ingenuity was directed to the subject, and the old tools were worked in machines which gave them their proper motion.

The swedge hammer became the heading machine, receiving the end of a coil of wire and regularly cutting the required length for a blank, which then, by a blow, had one end of the wire, "set up" to form the head, the operation continuing automatically till the entire wire was cut up into blanks. These blanks were then handled individually, and passed to machines, the first for shaving the head, the second for nicking, and the last for cutting the thread. In 1846 a further revolution was effected in this manufacture by the use of machines that were entirely automatic. By this system the blanks were supplied in mass by the operator, the machine separating and handling each blank respectively, as the nature of the operation demanded. The heads were turned and nicked by automatic mechanism, and then dropped into a machine which turned and cut the threads on the shanks, passing out the complete screws with wonderful rapidity. The first inventor of this machinery was General Thomas W. Harvey, of Vermont. Later inventors added improvements, increasing the perfection of the operation and its product. Among these was the gimlet-point, the invention of Thomas J. Sloan. This slight improvement so increased the usefulness of screws that their manufacture immediately became a profitable and important industry. Many modifications of the common screw have been invented, adapting it to a wide range of uses in the various manufactures of machines, articles of use and ornament, etc. The daily production of the various screws in use in the world is estimated to require the consumption of 500 tons of iron.

As to nail-making, all nails were formerly hand-made, by forging on an anvil. In Britain and the north of Europe great quantities are still made in this manner. In France the greater part of the nails used in carpentry work are made of soft iron wire, pointed with the hammer, and to make the head they are pinched in a toothed vice. Nail-making by machinery originated in Massachusetts about 1810. The principle of the machines for making cut nails is comparatively simple, but the details of construction for various nails are too complex to be clearly understood by any mere description. The iron is first rolled into plates having a thickness corresponding to that of the nail to be made, and a width somewhat greater than the length of the finished nail. If the nails are to be annealed for clinching, the plates are cut in lengths transverse to the grain of the iron. The plates are then, by machinery, fed into a cutter, which cuts them into tapering lengths. To secure this tapering form without waste of material, the plate is pushed into the cutter at a slight angle, first on one side and then on the other, the head of each alternate nail being formed at the lateral edge of the plate opposite that at which the head of the previous nail was made. Each length cut off—these are called blanks—is gripped by holding jaws, which clamp it firmly while a punch abuts against its widest end and flattens down a part of the metal to form the head. Some machines have the cut-

ting dies work with a lateral movement, so as to cut the tapering edge of the blanks on alternate sides, and in some the plate is made wide enough to cut a number of nails at once. The manufacture of horseshoe-nails is carried on by machinery which is very elaborate, and turns out a finished product with marvelous rapidity and exactness. Of the minor varieties of nails garden nails may be mentioned, which are made of cast-iron and toughened by annealing; also, screw-nails, made with flat shanks, to which a slight spiral turn has been given; and barbed nails, which have notches to increase their hold on the wood. Shoe-nails and brads are cut, the smaller sizes from sheet-iron, the larger from iron. Ornamental nails are made with wrought shanks, and heads of stamped metal or porcelain, which are screwed or clamped on.

#### THROWING THE WEDDING SHOE

NEPONSET, Ill.

Can you tell us what was the origin of the old custom of throwing a shoe after a newly married couple?

RED ROVER.

*Answer.*—This custom of throwing one or more old shoes after the bride and groom either when they go to church to be married or when they start on their wedding journey, is so old that the memory of man stretches not back to its beginning. Some think it represents an assault, and is a lingering trace of the custom among savage nations of carrying away the bride by violence. Others think that it is a relic of the ancient law of exchange or purchase, and that it formerly implied the surrender by the parents of all dominion or authority over their daughter. It has a likeness to a Jewish custom mentioned in the Bible. Thus in Deuteronomy we read that when the brother of a dead man refused to marry his widow she asserted her independence of him by "loosing his shoe." Also in Ruth when the kinsman of Boaz gave up his claim to the inheritance of Ruth and to Ruth also, he indicated his assent by plucking off his shoe, and giving it to Boaz. It was also the custom of the middle ages to place the husband's shoe on the head of the nuptial couch, in token of his domination.

#### SPHERICAL CASE SHOT.

MARBLE ROCK, Iowa.

Please describe the projectile known as "spherical case."

C. C. HOPKINS.

*Answer.*—What is called spherical case shot consists of a cast-iron shell of sufficient strength and thickness to resist the shock of a discharge, filled with musket balls, and the interstices between them filled up by pouring in melted sulphur or resin, in order to solidify the mass. A hole is then bored through the mass of sulphur and bullets, large enough to admit a bursting charge of sufficient power to rupture the whole mass when ignited. Placed in the gun it is strapped with tin strips to a circular block of wood, called a sabot, to prevent its turning in the bore. The charge is ignited by a time-fuse, which is regulated to cause explosion at any desired time in its flight. This makes the effective range of the shot very great, as this range is practically limited only by the power of the gun, since it can be made to explode only when close to the object, or upon actually striking it.

Spherical case shot can be made for guns of any caliber.

#### EXPENDITURES AND LOSSES.

RUSHFORD, Minn.

What have been the losses and what the expenditures of the United States since the time of Washington?

C. W. G.

*Answer.*—1. The losses to the government since Washington's time have been as follows, by administrations, on each \$1,000 of revenue collected:

Loss on \$1,000.	Loss on \$1,000.
Washington.....\$2.22	Polk.....\$4.08
Adams, John.....2.59	Taylor.....4.19
Jefferson.....2.75	Fillmore.....3.56
Madison.....4.16	Pierce.....3.81
Monroe.....8.58	Buchanan......76
Adams, J. Q.....4.39	Lincoln......57
Jackson.....7.52	Johnson......24
Van Buren.....11.71	Grant.....8-10 of a mill
Harrison.....6.40	Hayes.....
Tyler.....	

2. The following have been the expenditures from March 4, 1789, to June 30, 1885:

1789-91...	\$3,970,452	1839.....	26,896,782
1792.....	8,269,870	1840.....	24,314,518
1793.....	3,546,930	1841.....	26,481,818
1794.....	6,297,822	1842.....	25,134,856
1795.....	7,309,601	1843.....	11,780,092
1796.....	5,790,651	1844.....	22,483,560
1797.....	6,008,672	1845.....	22,935,828
1798.....	7,607,586	1846.....	27,261,183
1799.....	9,295,818	1847.....	54,920,784
1800.....	10,813,971	1848.....	47,618,220
1801.....	9,393,500	1849.....	43,499,078
1802.....	7,976,252	1850.....	40,948,383
1803.....	7,952,287	1851.....	47,751,478
1804.....	8,637,907	1852.....	44,390,252
1805.....	9,014,349	1853.....	47,743,989
1806.....	9,449,178	1854.....	55,038,455
1807.....	8,354,151	1855.....	58,630,661
1808.....	9,061,413	1856.....	68,726,390
1809.....	10,280,747	1857.....	67,604,409
1810.....	8,474,753	1858.....	73,983,493
1811.....	8,178,040	1859.....	68,993,600
1812.....	20,280,771	1860.....	63,200,875
1813.....	31,681,852	1861.....	66,650,213
1814.....	34,720,925	1862.....	469,570,241
1815.....	32,943,661	1863.....	718,734,256
1816.....	31,196,356	1864.....	864,969,098
1817.....	19,990,892	1865.....	1,295,099,289
1818.....	20,018,628	1866.....	519,022,356
1819.....	21,512,004	1867.....	346,729,326
1820.....	18,285,535	1868.....	370,339,184
1821.....	15,849,553	1869.....	321,191,597
1822.....	15,000,432	1870.....	293,657,005
1823.....	14,706,630	1871.....	283,160,893
1824.....	20,273,702	1872.....	270,559,696
1825.....	15,857,217	1873.....	285,239,325
1826.....	17,037,859	1874.....	301,238,800
1827.....	16,139,167	1875.....	274,623,393
1828.....	16,394,842	1876.....	265,101,034
1829.....	15,184,054	1877.....	241,334,475
1830.....	15,142,108	1878.....	236,964,327
1831.....	15,237,816	1879.....	266,947,884
1832.....	17,288,950	1880.....	264,847,637
1833.....	23,017,522	1881.....	259,651,639
1834.....	18,627,570	1882.....	257,981,440
1835.....	17,572,813	1883.....	265,408,138
1836.....	30,868,164	1884.....	244,126,244
1837.....	37,249,214	1885.....	260,226,935
1838.....	33,864,715		

#### THE ROUMANIANS.

HILLSBORO, Wis.

Please give some account of the Roumanians, their origin, language, and history.

LEARNER.

*Answer.*—What is now known as Roumania was within the limits of ancient Dacia, whose inhabitants were called in origin to the Thracians. The Romans conquered the country in 105 A. D., held it till 275 A. D., and colonized it, and then gave way to the Goths. For several centuries this country was the scene of the struggles between the Gothic, Hunnic, Bulgarian and Slavic races—who alternately ruled or were ex-



pelled from the country. These people all left more or less trace of their characteristics among the Romanized Dacians, and thus helped to form that composite people, the Wallachs, who later controlled the entire country. Two provinces were now formed of this country—Moldavia and Wallachia. In the eleventh century the Wallachs were converted to Christianity. During the two following centuries their country was overrun by the Turks, the Mongols, and the Tartars, who left it so utterly devastated that no trace of the native population existed anywhere save in the mountains and forests. During the fourteenth century, however, the Wallachs again secured possession of the two provinces, and established independent governments. In the sixteenth century both of these placed themselves under the protection of the Porte, reserving the right to choose their own rulers. This, however, they lost some time later, and the Turks governed them by rulers selected from the Greek princes of Constantinople, who had no interest in the countries beyond enriching themselves by farming their revenues. In 1802 the Russians wrested from Turkey the right of surveillance over the principalities, but they could not secure the independence they desired without first successfully overthrowing the claim upon their sovereignty made by the Greeks. In 1858 the two principalities were united under one ruler, under the name of Roumania. The people of these provinces, though known to all Western Europe as Wallachs, called themselves Romani, in consideration of their claim to a mixture of Roman blood in their ancestry. A number of Roumanians are also found in the other Danubian provinces. Roumania has had a constitutional government since 1866. Its entire independence was recognized by Turkey in 1878. The language used by this people is composite, because of their mixed origin. About three-fourths of their words are of Latin origin; the rest are derived from the Greek, Gothic, Slavic, and Turkish dialects.

#### THE SOCIETY OF JESUS.

GALESEBURG, Mich.  
What is Jesuitism? Where did it originate? Would  
like to know all about it. WM. R. ROGERS.

*Answer.*—The Society of Jesus is one of the most celebrated religious orders of the Catholic Church. Its history has been the history at times of several of the leading countries of modern Europe. The society was founded by Ignatius of Loyola in the year 1534. That well-known figure of the sixteenth century was assisted by Peter LeFevre, a Savoyard; three Spaniards named James Lainez, Francis Xavier, and Nicholas Bobadilla, and a Portuguese named Rodriguez. The first idea of the promoters of the organization was limited to a pilgrimage to the Holy Land and a mission for the conversion of the infidel. At that time, however, access to Palestine being impossible, owing to the warfare existing between the Turks and the Western powers, the persons named turned their attention to a more comprehensive organization, which was especially designed to meet those more

modern requirements arising from the spread of the Reformation. Loyola, with Lainez and LeFevre, went to Rome in 1539, submitted to Paul III the rule of the proposed order—"To the greater glory of God" and the vow by which, besides the usual vows of chastity, poverty, and obedience, they bound themselves to go as missionaries to any country which the Pope might indicate. Loyola was its first general. The original constitution has changed very little since the founding three and a half centuries ago. The general holds the office for life. The Jesuits have been driven out of Spain, Italy, France, and many other countries. Their opponents charge that the word Jesuitism is the synonym of craft and duplicity, and many of those who have been most vigorous in their denunciation have been good Catholics.

#### THE BRAIN AND MIND.

EAST WOLF, Kan.  
Give the philosophy and present theory as to the creation and separation of thought.

PHYSIOLOGIST.

*Answer.*—It has been asserted that the brain secretes thought as the liver secretes bile. This proposition is a very crude and not wholly exact expression of the facts of the case, but the idea meant to be conveyed, that the physical organ of the liver is no more essential to the secreted product which we call bile than the physical organ of the brain is to the mental process known as thought—is certainly borne out by modern scientific research. Mind, be it remembered, can not be dealt with as a palpable object, it can only be perceived in the changes of matter which belong to its manifestation. Every mental process is the result of—that is, it is attended with—some change—molecular, chemical, or vital—in the nervous elements of the brain. Of the actual composition of nerve element little is known, but the element is known to be of a complex nature, to be readily decomposed, and to contain a large portion of carbon and hydrogen. These two constituents give the substance a high oxidation value, as chemists express it. In other words, oxidation is as necessary to the evolution of thought from brain as it is to the conversion of fuel into flame. Dr. Maudsley, who is perhaps the highest authority on the physiology of the mind, says that "the energy which is mind may most properly be compared to the energy which is muscular function." He finds that the consumption of matter during brain exercise greatly resembles the waste of matter during muscular action. But though it is impossible to assert what the true nature of mind is, we can not evade the knowledge that its manifestation is indissolubly dependent upon the structure of the nerve cells of the brain and a due supply of suitable blood. When disease interferes with either of these necessary conditions mental action ceases. To sum up the matter, from Dr. Maudsley's work, "The Physiology of the Mind," we condense the following summary of propositions which may be said to define the present limits of our knowledge of the physical constitution of mental action: 1. Whenever a thought occurs in

the mind there necessarily occurs a correlative change in the grey matter of the brain; without it the thoughts could not arise, and with it can not fail to arise. 2. This change consists of movement of some kind, which as its nature is not, and can not be known, each writer may conceive of as he pleases. Dr. Maudsley conceives that it most resembles the compound vibrations in music. 3. This movement requires time; it is unquestionably swift, but always occupies an appreciable period. 4. It requires a regular supply of properly constituted blood. 5. It is arrested or prevented by interrupting the continuity of nerve-cells by pressure upon them or injury to them, or by changes of their structure caused by disease. 6. The movements are impeded and finally prevented by exhaustion produced by their continuous exercise without due intervals of rest.

#### WAR RECORD OF THE UNITED STATES ARMY.

OTTUMWA, IOWA.

Can you give a list of all the wars, Indian rebellions, large and small, in which the United States has been engaged?

L. S. JONES.

*Answer.*—To include all the minor frontier strifes makes the list a long one, but it shows that our little army has had considerable business on its hands, at one time and another. We exclude all the fighting of the Colonies, and begin with the Revolutionary war of 1776-83. After that came the brief conflict with France in 1798; that of 1812 with Great Britain, the Mexican war of 1846, and last and greatest, the war for the Union, 1861-65. Then we have on record, as lesser difficulties, the Wyoming Valley war, 1782-87; Shay's rebellion, 1786; the whisky insurrection, Pennsylvania, 1794; Northwestern Indiana war, 1790-95; Tripoli, African coast, 1801-5; Burr's insurrection, 1806; Chesapeake war (naval, British), 1807; Northwestern Indiana war, Indiana, 1811; the President ship engagement with the British sloop Little Belt, 1811; Florida Seminole war, 1812; Peoria Indian, 1813; Creek Indian, 1813-14; Lafitte's pirates, 1814; with Barbary, north coast of Africa, 1815; Seminole Indian, 1817-18, and Lafitte's pirates again in 1821.

Then came the Kickaree, Indian, 1823; Fovre River, Indian, 1827; Winnebago, Indian, 1827; Sac and Fox, Indian, 1831; Black Hawk, Indian, 1832; Toledo war, boundary line between Ohio and Michigan, 1833; Texas wars, previous to annexation, 1835-6; Indian stream war, boundary line between New Hampshire and Canada, 1835-6; Creek, Indian, 1836-7; Florida, Seminole, 1835-42; Sabine, Indian, 1836-7; Cherokee, Indian, 1836-8; Osage, Indian, 1837; "Patriot war" rebellion in Canada against the mother government, and troops called out to prevent invasion of the United States territory, 1838-9; the "Heatherly disturbance," Indian, 1836; Mormon war, Missouri, 1838; Arcostook war, Maine, territory line trouble; United States and Canada, 1839; Dorr's rebellion, Rhode Island, 1842; Mormon war, Illinois, 1844; Cayuse, Indian, Oregon, 1847-8; Cuban troubles, preventing expeditions, 1849-51; Texas and New Mexico, Indian, 1849-55; California, Indian, 1851-2; Utah, Indian, 1850-3;

Rogue River, Indian, 1851, 1853, and 1856; the Japan naval expedition, 1853-4; China, naval engagement, 1854; Oregon, Indian, 1854; Nicaragua troubles, suppressing Walker's and other expeditions, 1854-8; Kansas troubles, 1854-9; Cuban troubles, 1849-51, 1854, 1867, and 1878; Yakima, Indian, 1855; Klamath and Salmon River, Indian, 1855; Florida, Indian, 1855-8; John Brown's Virginia raid, October, 1859; Sioux, Indian, 1862-3; Cheyenne, Indian, 1861-4; Oregon, Idaho, and California, Indian, 1865-8; Fenian invasion of Canada, May and June, 1866; Indian Territory and Kansas, Indian, 1867-9; Medoc, Indian, 1872-3, Apache, Arizona, Indian, 1873; Arkansas rebellion (State government), 1874; Indian troubles to Kansas, Colorado, Texas, Indian Territory, and New Mexico, 1874-5; Louisiana rebellion (State government), 1874; Cheyenne and Sioux, Indian, 1876-7; Pennsylvania and Maryland railroad strike, 1877; Nez Perce, Indian, 1878-9, and White River Utes, 1879. It may be stated that these were not all wars, and properly they were not, but they were all occasions when the troops were called out and somebody got hurt.

#### THE SHAKERS OF HAMPSHIRE.

SCHUYLER, Neb.  
Give some account of Mrs. Girling, leader among the Shakers in England.  
SUBSCRIBER.

*Answer.*—There was a sort of a revival of Shakerism in England in 1870 and several following years, which led to the foundation of the community in Hampshire. Mrs. Girling was the wife of a builder in Ipswich, and belonged to the Methodist Church. She was subject to inspirational trances, during which she would speak and cry aloud without ceasing. Her fellow Methodists tried to check these in some degree, but in vain, and at last they expelled her for creating disturbances. She then set up as a prophet in the Shaker sect, and declared herself to be the woman of the twelfth chapter of Revelations who was "clothed with the sun, and with the moon under her feet." After assuming this character she always dressed in a long, white robe, which, as she was tall and gaunt of form, made her appearance very impressive. She began her meetings at Chelsea, and gathered about her a number of followers. It was said that in organizing their church they actually adopted the following resolutions:

*Resolved*, That the earth and the fullness thereof belong to the elect.

*Resolved*, That we are the elect.

As a consequence of the exclusive belief thus enunciated the members of the sect determined to pay no rent for houses or lands. A Miss Wood, a lady of some wealth, became one of their converts, and was for some time instrumental in aiding them. She obtained for them some land with a number of cottages in the New Forest, near Lymington, Hampshire, and here eighty-three of the Girlingites—Bible Christians they called themselves, professing in all things to take the literal Scriptures for their guide—settled themselves. None of them being inclined to work, they soon got into debt, and were much persecuted. They had mortgaged



their cottages for funds needed to carry on their community, and refusing to pay the interest on this mortgage when due, they were ejected from their homes in December, 1874, and suffered much through the severe weather. Miss Wood again came to their assistance, paid the mortgage, and reinstated the community. During the following year Miss Wood was put in confinement as a lunatic. The Girlingites got into money troubles again, and lost their property in 1878. Soon after this the community gradually melted away. Mrs. Girling is described as a woman calculated to win and hold the power which for some years she wielded over her followers with almost absolute sway. Besides always dressing in white she wore her hair in long curls, and had tamed a number of pigeons, which she taught to perch on her shoulders, head, and her hands at call. She had remarkable power of gesture and used it freely, waving her long arms about in a manner that gave her to outsiders a most uncanny appearance, but to her devoted followers seemed added indication of her superiority. Her eye was dark and piercing, and she could make her followers actually tremble under its glance. She had the power of mesmerizing, too, which aided largely her supernatural claims.

## THE CORINTHIAN CANAL.

CHICAGO.

Tell us something about the canal that has been made across the Isthmus of Corinth. When was it begun? Has it yet been completed? Was there not an ancient canal dug on the same line?

PEDAGOGUS.

*Answer.*—On the 6th day of May, 1882, the ground was formally broken for the construction of a new canal across the Isthmus of Corinth, designed to shorten materially the voyage of vessels trading between the West and the Ægean and Black Seas. The concession for the work was signed in 1869, but nothing came of the project, and on the 31st of May, 1881, a new concession was made to General Turr and M. de Lesseps. Of the 19,145,106 tons annually passing that way, it is estimated that 5,897,706 will follow the canals, and the tolls are placed at one franc each "Adriatic" ton or passenger, and half that rate for "Mediterranean" traffic. A contract has been passed for the whole of the work for a sum of nearly \$5,000,000. The length of the canal is almost four miles. By the report of the canal company made in 1885, it was shown that up to the close of 1884, 1,300,000 cubic meters of earth had been removed, leaving about 8,000,000 cubic meters to be dealt with. There has been much delay in securing suitable appliances for the work, but it is thought that the work will proceed more rapidly in future, and will be completed about the close of 1887. The ancients did not build though they projected a work of this kind, and it is curious that the engineers of this canal have been following without the variation of a foot the route laid out by the Roman engineers for Nero 1,800 years ago. Nero was not the earliest worker, however. Periander is said to have projected such a canal 2,500 years ago, and three centuries afterward Demetrius Poliorcetes revived the scheme, but was dissuaded by the

representations of his engineers that, as the sea in the Gulf of Corinth was higher than in the Saronic Gulf, the water would run through the canal and drown out Ægina and the other islands of the east. Caesar had a plan for canalizing the Isthmus, and Caligula sent an officer to explore the route, but went no further. Nero made a serious endeavor to perform the work, which endeavor is thus described: Having raised a hymn, Lucian tells us, to Amphirite and Poseidon, and sung a brief song to Melicerte and Leucothea, he thrice struck the ground with a golden spade, and set his army to work at the trench, while a corps of convicts tackled the rocky ridge. After twelve days' work, however, Nero left Greece to quell an insurrection, and the cutting was abandoned. The lines of the trench in the lowland still remain, the ditch being about 130 feet wide, and there are cuttings in the limestone at different levels, all of which, with the twenty-six wells sunk to try the rock and the large cistern to furnish water for the workmen, have been utilized by the French engineers. According to Dio Cassius, when Nero turned the first sod blood gushed from the earth and dismal groanings were heard; and Pausanias records that all the presumptuous engineers and contractors had been slain by the gods. It is likely enough that the Corinthian priests worked on the fears of the superstitious to prevent the construction of a canal which would make the stay of visitors briefer and their offerings smaller in amount; but the people were always convinced of the importance of such a work, and indeed built a diolcos, or a polished way across the Isthmus, on which ships were drawn from one harbor to the other.

## GENERAL PHIL KEARNEY.

SAN ANTONIO, WIS.

Give us complete a sketch as you can of General Phil Kearney.

SUBSCRIBER.

*Answer.*—Philip Kearney was born in New York City in June, 1815. Was educated for a lawyer, but in his 22d year entered the army. He accepted a commission as first lieutenant of dragoons March 8, 1837. In 1838 he was sent to Europe by the government to study and report upon French cavalry tactics. He entered the Polytechnic School at Saumur; fought in the ranks of the chasseurs in Algeria, and returned home in 1840 with the cross of the Legion of Honor. He became a captain in 1846, served with distinction under General Scott in the Mexican war, and was breveted major for his gallantry at Contreras and Churubusco in 1847. In the attack on the San Antonio gate of the City of Mexico he lost his left arm. He subsequently commanded an expedition against the Indians on the Columbia River, resigned in 1851, and again went to Europe to pursue military studies. During the Franco-Italian war of 1859 he served as volunteer aide on the staff of the French general, Maurice, was present at Macenta and Solferino, and received from Napoleon III. a second decoration of the Legion of Honor. When the war for the Union broke out he left Paris and hastened home, and was made brigadier general of the volunteer

army, commanding a brigade of New Jersey troops at the first battle of Bull Run. He was soon after made a division commander, and as such served through the peninsular campaign with distinguished valor. He was made major general of volunteers July 4, 1862. His division was assigned to Pope's army immediately after the retreat from Harrison's Landing, and was engaged in all the unfortunate battles of that army from Aug. 25 to Sept. 1. He was killed at the battle of Chantilly Sept. 1, 1862.

#### THE BAPTISTS.

BURTON, Kan.

Give a history of the Baptists. Where and by whom was the church founded? What are the different sects of the Baptists? Has the entire sect always held the doctrine of close communion? SUBSCRIBER.

*Answer.*—It is generally believed by the Baptists that they can trace their history in a succession of pure churches upholding their distinctive opinions, though under various names, from the third century down to the reformation. These churches, from the fifth century onward, were the subjects of systematic persecution from the state churches, both of Byzantium and Rome. Yet their principles reappear among the Culdees of the West and the Paulians of the East, the Vallesii and the Paterines, the Albigenses and Waldenses, and emerge on all sides at the first dawn of the reformation. They were known at that period as Anabaptists, because though they were of different sects or names in the states of Germany and Switzerland, they were distinguished by the common principle of rebaptizing their converts. Modern Baptists, however, originated in England. They founded their principle of second baptism on the doctrine that true and valid baptism implies immersion—which they do not repeat—and thus they regard their church as widely distinguished from those of the Anabaptist sects. Those bodies of Christians agreed with modern Baptists, however, in two important tenets, viz: Admitting only professed believers to baptism and in maintaining a gospel church independent of ecclesiastical control. In upholding these ideas the Anabaptist sects come so clearly in advance of other religious bodies of their time that later Baptists might well admit their legitimate descent from them. It is quite difficult to decide when the first Baptist church appeared in England, but unquestionably companies of this faith existed there at the opening of the seventeenth century. In 1611 these addressed their first appeal "to the king, the parliament, and the people," in behalf of "soul liberty," demanding freedom of conscience for all. The first Baptist church in London was established in 1608. They published their first confession of faith in 1643. In the time of Cromwell this church first gained a fair hearing. At this time many men of note, Milton, Sir Henry Vane, and others, adopted their views, and the words and teachings of these leaders had a great influence in securing religious liberty in England. The Baptist Church in America was founded by Roger Williams in Rhode Island. Besides the general body of Baptists there are in the United States nine smaller bodies, distinguished by peculiarities indicated

by their respective names and differences, thus summed up: The Seventh-day Baptists differ only in preferring the Jewish to the Christian Sabbath; the Free-will and Anti-mission Baptists are seceders from the general fellowship on account of Arminian and Antinomian tendencies, though the latter are thought to be gradually adopting different views and returning to the general body. The Six-principle (or general) Baptists, the Tunkers, and the Mennonites, are of foreign origin, and cling to their ancient usages. The Christian Connection, the Campbellites (or Disciples), and the Winebrennarians (or Church of God) are new organizations, drawn from various sources, though agreeing with the Baptists generally as to the subjects and mode of baptism. On the subject of church communion strict Baptists generally agree that it is not proper for any save immersed persons. Open communion, so eloquently advocated by Robert Hall in England, the Baptists of the United States generally regard as an anomaly not consistent with strict views of doctrine.

#### THE FRENCH CONCORDAT.

CHICAGO.

Give a plain statement showing what the French concordat is, or was. Have other countries similar arrangements with the church? R. K. MENTON.

*Answer.*—The word concordat originally meant simply an agreement, but has come in European politics to signify a compact between the Pope and some government or sovereign for the regulation of ecclesiastical matters with which both are concerned. The first French concordat was concluded in 1516 between Francis I and Pope Leo X., and this continued in force until the French revolution. With the successful inauguration of the revolution began a fierce struggle between the church and state in France. First, all titles were abolished, then all church property was taken possession of by the state, and the clergy were no longer recognized as a social order. Finally, in 1795, it was proclaimed that the State would no longer recognize any form of religion, and would pay nothing more toward its support. The National Church was formally abolished, and religious and civil interests were wholly separated. The connection was renewed, however, in 1801, by the conclusion of a new concordat, between Napoleon Bonaparte, as First Consul, and Pius VII. This gave much more authority to the state than the one previously overthrown, and in 1813, by imprisoning the Pope at Fontainebleau, an even more liberal concordat was signed. When the empire was restored this document was at first ignored, but it still continued in force. In 1817 an attempt was made to form an amended concordat, but no material change was effected in it. Under the concordat, the state holds a very important degree of control over church affairs. No edict of the pontiff can be received by the French Church, or published, printed, or otherwise executed, without the authorization of the government; nor, without such authorization, can any papal messenger exercise on French soil or elsewhere, any function relative to the affairs



of the Gallican Church. No councils, synods, or other ecclesiastical assemblies can be held without the express permission of the government; no bishops are allowed to absent themselves from their dioceses without such permission, and all ecclesiastical dignitaries must pledge primary allegiance to the state. The state holds control of all property, and a specified part of the income from the same is used to pay the salaries of all church officials. Germany has long had a similar compact with the Pope, also many of the German States individually, several of the Italian States, and Spain and Portugal. Austria made one in 1855, but abrogated it in 1868.

## BALZAC.

SCHELL CITY, Mo.

Who was Balzac, and an account of his life?  
LON CORKINS.

*Answer.*—Honore de Balzac was one of the great modern French novelists. His native place was Tours, where he was born May 20, 1799. His father held a civil office there. Like many other great writers, he spent part of his youth in the office of a notary, and, like his great brethren similarly placed, he found the occupation irksome beyond description. He entered on his literary career, and such was his copiousness that he wrote about thirty volumes under various names. These ventures were very unsuccessful, and Balzac struggled on through extreme poverty. In the year 1826 he entered into partnership with the printer, Barbier, and published various works, but he was unfortunate and he fell into debt. He was not to be daunted, however, and labored on when most men would have given up in despair. In 1829 he wrote his novel "Les Derniers Chouans," and then his success was assured. His works were read by the hundred thousand, and made him famous. They suffer from unnaturalness, diffusiveness, and the want of a healthy, substantial knowledge of the world. His works have been collected and published in forty-five volumes. He died in the year 1850.

## HOLSTEIN CATTLE IN AMERICA.

HIGHMORE, D. T.

When were the original importations of Holstein cattle?  
RETSBEW.

*Answer.*—The Holstein cattle, otherwise called Dutch cattle, were, according to so good authority as Jonathan Periam, undoubtedly brought to this country among the first cattle that came here. The French brought their breeds with them to Canada, the British to New England and the Virginia Colonies, and no doubt the Dutch brought theirs to New York and New Jersey. There is a record that the Dutch brought cattle over in 1625, and that they were of the Dutch strain is quite possible, as they were cattle noted for their milk and their labor. Holsteins, or Dutch cattle, as a distinctive breed of milking cows, were brought into the United States early in the present century, but the pure breed was soon lost. Sometime between 1820 and 1825 Mr. Herman Le Roy, a merchant of New York, imported some improved Dutch cattle and kept them on his farm near the city. In 1833 Mr. L. F. Allen describes the descendants of these cattle. The herd became scattered and finally mixed with the ordinary stock of the country. The first

record of pure-bred animals, the descendants of which have been kept so, seems to have been the importation of Mr. W. C. Cheney, of Boston, the first in 1852, a single cow; in 1857 the same gentleman made a further importation of a bull and two cows, followed in 1859 by four other cows. In 1861 he made other importations, and the importations were publicly recognized.

## THE FISK AND STOKES TRAGEDY.

ODELL, III.

Give circumstances of the Fisk tragedy and sentence of Stokes.  
A. N. BARNES.

*Answer.*—The Fisk tragedy occurred Jan. 7, 1872. It took place at the Grand Central Hotel, New York. James Fisk, a great speculator, quarreled with Edward S. Stokes over their admiration for an actress named Josephine Mansfield. For some time she had been supported by Fisk, but finally an intimate acquaintance grew up between her and Stokes which made Fisk very angry. This led to a law suit between the two men and it was this that caused Stokes, when he found that his rival had a legal advantage over him, to shoot Fisk on the stairway of the hotel. He was tried for this crime and sentenced to be hung, but he was afterwards allowed another trial and sent to Sing Sing for a term of years. This term he shortened by good behavior and was pardoned out in 1876.

## BARON DE ROTHSCHILD.

NOKOMIS, III.

Give a brief sketch of the famous Baron Rothschild, of England.  
O. H. N.

*Answer.*—Baron Lionel De Rothschild, the famous financier, was the first representative of the Jewish faith who had a seat in the British Parliament. He was born Nov. 27, 1808, and died June 3, 1879. He was the eldest son of the famous Nathan Meyer De Rothschild, who in 1822 had been created a baron of the Austrian Empire. Baron Lionel De Rothschild was in political life chiefly known for the part which he took in the emancipation of Jews and for his warm championship of liberal principles. He was elected a member of the British Parliament by the Liberal party in 1847, 1849, 1852, and 1857, but he was not permitted to take his seat until 1858, when the civil disabilities of the Jews were removed by Parliament. He kept his seat until 1874. He was most munificent in his charities, benefiting not only people of his own faith but those of all classes. His eldest son, Nathan Meyer De Rothschild, succeeded him in his business.

## PROCESS OF CANNING MEATS.

CARTHAZE, D. T.

Give description of the process of canning meats.  
G. BARROWS.

*Answer.*—The first patent for canning meats was given in 1808 to M. Epert, a Frenchman. This covered the process for preserving provisions by boiling and inclosing them in a vessel from which the air was excluded. The same process as improved is still used in the business. The receipt for the canning of meats is as follows: Take good fresh meat—for all meat for canning should be perfectly fresh—and boil it in a tightly covered kettle to prevent the escape of the aroma of the meat. Boil it until it is tender and the

bones will easily slip out. Add water from time to time during the boiling to supply loss by evaporation, then remove the meat and boil the liquor to a rich gravy. Isinglass or some other glutinous substances are sometimes added to the liquor to give it greater consistence. All the bones can then be taken out and the meat be cut sufficiently fine. Pack it in cans tightly and pour over it evenly all the gravy the meat will absorb. In this way the space between the pieces of meat are filled up and the air is entirely excluded. Now weigh the can and cap it. The cap should be perfectly clean and bright and laid over a vent-hole previously made, and soldered down, without using too much solder or resin. The quicker the cans can be capped the better. Leave a small vent-hole in the cap, then boil the meat in open water bath for half an hour; remove from the fire, wipe the top of the can with a cold, wet cloth to check the steam, and then solder up the small vent quickly. Meat is sometimes canned without cooking, but not often, as it will not keep well.

#### THE SAFETY BALANCE IN MINES.

**CHICAGO.**  
Please give an account of the recent invention by which the presence of fire-damp in mines can be indicated. Who was its inventor?  
**P. REDUX.**

**Answer.**—The use of a safety balance in mines is referred to. It was invented by the well-known author, Henry Guy Carleton, who has refused to take out patents for his invention, but presents it to all mining companies who will put it to use. The invention "consists of a pair of balances, each having at the beam a receptacle containing a given quantity of hydrogen gas; the receptacles are duly counter-balanced. The moving parts of the two instruments are electrically connected; and, when properly adjusted, any motion of one balance will instantly affect the balance of the other instrument, no matter how far apart the instruments may be located. Thus one instrument may be placed within a coal mine and the other in the superintendent's office. Should an inflow of fire-damp occur in the mine the beam of the balance will instantly turn, carrying warning signals and alarms wherever wanted, together with information to the office showing the degree of change in the atmosphere of the mine. Ample time thus will be afforded, whether in night or day, to secure the safety of the miners, and the condition of the mine, whether safe or dangerous, will at all times be indicated by the instrument." Hitherto the most practical test was experienced observation of the flame of the safety lamp, but the frequency of explosions shows that this test can not be relied upon. Mechanical tests have been invented, but it was necessary to carry them about the mines and make the observations on the spot. Mr. Carleton's invention is intended to be stationed in the galleries of the mine as a fire or burglar alarm is in a house, and to indicate the presence of fire-damp anywhere to an observer in the superintendent's office outside the mines.

#### THE SISTER OF WASHINGTON.

**HAYES, Neb.**  
Can you tell me something about President Washington's sister Elizabeth?  
**W. J. DEX.**

**Answer.**—George Washington's sister—whom he records in his family record as named Betty,

not Elizabeth—was about a year and a half his junior. She was born June 20, 1733. Little has been recorded concerning her, except the fact that she greatly resembled her brother George in face and figure. She became the second wife of Fielding Lewis, by whom she had a number of children, many of whom died young, but a son and a daughter lived to grow up.

#### FIFTY-SECOND ILLINOIS INFANTRY.

**FORREST, Ill.**  
Please give a brief history of the Fifty-second Illinois Infantry.  
**C. D. TEWESBURY.**

**Answer.**—The Fifty-second Illinois Infantry was organized at Geneva, Ill., in November, 1861, being mustered in Nov. 19. Dec. 8, the regiment went to St. Joseph, Mo., in January was sent to Cairo, and Feb. 10, 1862, embarked for Fort Donelson. It took a prominent part in the battle of Shiloh—losing 170 in killed, wounded, and missing. It was at the siege and battle of Corinth and took part in the various expeditions sent in pursuit of Forrest during the following fall and winter. In April, 1863, the regiment went forward with an expedition into Northern Alabama, and took part in various skirmishes: was employed in guarding railroads during the summer, and in the fall was stationed at Pulaski, Tenn., doing provost duty. Jan. 9, 1864, three-fourths of the regiment reenlisted, and soon after took its veteran furlough. In May it moved southward with the army. It was in the battles of Snake Creek Gap, Resaca, Dallas, Kennesaw Mountain, and others of the Atlanta campaign. Went through to the sea with Sherman, to Washington to take part in review, and, July 5, was mustered out of service at Louisville, Ky.

#### THE JORDAN VALLEY.

**LEOPOLD, Mich.**  
Give a description of the River Jordan, its fall, and length.  
**R. N. JONES.**

**Answer.**—The name of the River Jordan is from Hebrew Jarden, meaning the descender, and that it is well named may be judged from the following figures concerning its fall. At its source near Hasbeya, the Jordan is 1,700 feet above the Mediterranean; at its mouth in the Dead Sea, it is at least 1,300 feet below the Mediterranean, making a total fall of about 3,000 feet. The distance from the Hasbeya Spring to the Dead Sea is 120 miles, and the length of the winding channel is about 200 miles. From this we must subtract the loss of 20 miles for lake and morass of Hoolah, and the Lake of Genesareth, leaving 180 miles of the river proper, and making a fall of a little less than 17 feet to the mile. Few rivers have such a fall, and fewer still descend as the Jordan does, without cascades or waterfalls. Over two-thirds, and according to some authorities over four-fifths of the valley of the Jordan is below sea level. Hence, if a channel were cut from the valley to the sea, the greater part of the river would be submerged. Many travelers have called attention to this, and speculated as to the effect of turning the valley into an inland sea without much expectation that it would ever be seriously projected. Yet about three years ago the plan of using the Jordan Valley for a canal was discussed as a feasible project.



It was given up, however, largely from concession to the feelings of religious people, who much objected to the secularization of this valley of sacred associations.

## THE JEWS OF THE WORLD.

NEW ORLEANS, LA.  
Can you not give figures of the Jewish population of all large countries and of the world?

R. SCHOENINGER.

*Answer.*—Concerning the figures of the entire Jewish population on the globe there is a difference of opinion among the statisticians, but the "Hebrew Annual" declares that France contains 63,000; Germany, 562,000, of whom 39,000 inhabit Alsace and Lorraine; Austria-Hungary, 1,644,000, of whom 688,000 are in Galicia and 638,000 in Hungary proper; Italy, 40,000; Netherlands, 82,000; Roumania, 265,000; Russia, 2,552,000 (Russian Poland, 768,000); Turkey, 105,000; Belgium, 3,000; Bulgaria, 10,000; Switzerland, 7,000; Denmark, 4,000; Spain, 1,900; Gibraltar, 1,500; Greece, 3,000; Serbia, 3,500; Sweden, 3,000. In Asia there are 300,000 of the race; Turkey in Asia has 195,000, of whom 25,000 are in Palestine, 47,000 are in Russian Asia, 18,000 in Persia, 14,000 in Central Asia, 1,900 in India, and 1,000 in China. In Africa, 8,000 Jews live in Egypt, 55,000 in Tunisia, 35,000 in Algeria, 60,000 in Morocco, 6,000 in the Tripolitan, and 200,000 in Abyssinia. America counts 230,000 among her citizens, and 20,000 more are distributed in other sections of the transatlantic continents, while only 12,000 are scattered through Oceania. In short, the entire total of the Hebrew race on the surface of the globe is estimated at 6,300,000.

## CASTLES IN SPAIN.

BUDA, ILL.  
What is the origin of the expression "castles in Spain?"  
A. BOLEYN.

*Answer.*—In France there have always been numbers of chateaux or fine country residences of wealthy gentlemen. This style of building is not found in Spain at all, so the French adopted the expression in speaking of the merely visionary possessions of those who would be thought rich, that they had chateaux in Spain. The chateau d'Espagne is simply a castle in the air, a splendid edifice, but one having no real existence. These constructions are like the castles in fairy tales, which are built at a word by the power of genii or spirit, and at a word may be dissipated into thin air again.

## DAVY JONES' LOCKER.

ROSCOE, IOWA.  
Please explain and give the origin of the sailors' expression, "Gone to Davy Jones' Locker." READER.

*Answer.*—The expression, "He has gone to Davy Jones' locker," simply means he has gone to the bottom of the sea, or he is dead. It means, freely translated, the receptacle or chest of the spirit of the prophet, Jonah. Jones is the sailor's corruption of Jonah. He thinks the dominie who preaches about Jonah is simply afflicted with an ambition to talk like a cockney when saying Jonah, and that Jones is the name meant. Davy is said to come from the West India negro's word duffy, meaning devil or evil spirit. Davy Jones is simply Duffy or Devil Jonah—that is, he is the evil spirit of the sea, just as Neptune is the god

of the sea. Whatever of evil happens to the ship or crew is the work of the evil spirit of the sea, and so when a sailor man dies Davy Jones has claimed his own, and the body must be consigned to his home. Some authorities think that Davy is a corruption of teufel, the German for devil. A locker in sailor's parlance means any receptacle, large or small, in which private stores are kept. The phrase therefore may be said to mean, "He has gone to the place of safe keeping, where Duffy Jonah was sent."

## THE DELLA CRUSCAN SCHOOL.

CHICAGO.  
What is or was the Della Cruscan school?  
T. SKILWA.

*Answer.*—The Academia della Crusca or Accademia Furfuraturum was founded in the city of Florence in the year 1582, its chief object being the promotion of the purity of the Italian language, whence its somewhat fantastic designation—crusca signifying chaff or bran. It first came into general notice by its attacks upon Tasso. About the year 1785 there was a large colony at Florence composed of English people. The city was then, as before and since, a famous resort of those of ample means and nothing particular to engage their time and attention, beyond pleasure seeking. The hours hung heavily upon them, and those who believed they had the art of writing verses indulged in that to their hearts' content. These jingles they published under the title of "The Florence Miscellany." The characteristics of these productions were insipidity, affectation, and silliness, and yet this twaddle became immediately famous, just as the Oscar Wilde aberration swept over this country a year or two ago. The admirers and imitators of this Florentine colony of mentally decayed writers were legion. They took the name of the celebrated old academy and the Della Cruscan began to publish their verses in England. The spread of this disease was at once rapid and virulent. Prominent among the devotees of this school was one Robert Merry, who returned to Britain from Florence, and at once announced himself by a sonnet to Love. This precious lucubration was answered by a certain Anna Matilda, who, according to custom, praised it immoderately in language even more absurd than that of Merry himself. Then, the chroniclers of the day state, the fever became a frenzy; Laura, Maria, Carlos, Orlando, Adelaide, and a thousand other nameless names, caught the infection; and from one end of the kingdom to the other all was nonsense and Della Crusca. The good sense of the literary world soon reasserted itself, the senseless rhyesters and their admirers retired, their silly productions were gradually relegated to a well-earned obscurity, and the Della Cruscan school is remembered chiefly because of what its opponents wrote of it.

## THE TUNNELS OF THE ALPS.

NEWTON, ILL.  
Tell us something about the tunnels through the Alps. How many and how long are they?  
K. WOOD.

*Answer.*—At the present time the Alps are pierced by three remarkably long tunnels, entering Italy from France, Switzerland, and the Aus-

trian Tyrol respectively, and called, according to the mountain chains that are traversed, the Mount Cenis, St. Gothard, and Arlberg tunnels. Of these, the Mount Cenis is seven miles and three-quarters in length. Its cost was \$15,000,000. The St. Gothard is nine miles and a quarter in length, and cost \$12,500,000—the diminution in expense being owing principally to the more rapid progress of the work by improvement in the drilling machines. The Arlberg tunnel is only six miles and a half long. The projected Simplon tunnel, on which work was begun some months since, by which the existing railway line from Geneva to Martigni and Brieg will be carried through the mountains to Domo d'Ossola, and so on to Pallanza or Stresa, on the Lago Maggiore, will be twelve miles and a half long, and the cost is estimated at \$20,000,000.

#### THE ZUNIS.

Tell us something about that ancient tribe of Indians, the Zunis.

BENTON, Kan.  
T. W. CASSIDY.

*Answer.*—Thirty miles south of Fort Winate, N. M., and high up on the western slope of the Sierra Madre, nearly a mile and a half above sea level, stands ancient Zuni (Zoonye), the oldest town of the Pueblo or village Indians. When, early in the sixteenth century, the Spanish explorer, Francisco Vasquez de Coronado, penetrated this country, he found the Zunis, or Shi-wi-nas, a numerous and powerful people inhabiting a wide extent of territory. Oppression and pestilence have so diminished their numbers that the once mighty nation has dwindled to a single pueblo of 1,600 people. But the ruined towns with which the country is dotted still bear graven upon their walls the symbolic Shi-wi-na, the sacred water spider, which is the totem of the Zuni tribe. Lieutenant Cushing, an enthusiastic student of ethnology, spent some years among these Indians, conforming to their dress and customs, and studying their language and ethnological characteristics. He brought several of the chiefs to the East with him, and conducted them on a visit to the principal cities, where they were very much amazed at the peculiarities of civilized life.

Like the rest of the Pueblos, the Zunis are a settled, semi-civilized people, possessing a mature language and a traditional history extending back for scores of generations: a strictly defined civil and ecclesiastical polity, and a definite form of religion. Their skill in the mechanical arts, also, is a continual surprise to the stranger. Like most North American Indians, the Zunis are divided into distinct gentes, or clans, of which there are in this case fifteen. These again are combined into thirteen secret medicines, or sacred, orders, and based upon this sociologic structure the government of the tribe embraces three principles, the ecclesiastic, the military, and the political, respectively presided over by the priests, the war chiefs, and the political chiefs. These officials are elected, not by the people, but by the chiefs, who fill vacancies by choice from the clan or order that is by custom entitled to that particular office. In this way is built up a very elaborate structure based on successive grades of

aristocracy, and culminating in the high priests of the sun. To the Zuni, the spiritual world is exactly similar to the material one, and hence he worships a system of gods, classified and ranked according to the nature of their duties. The mythology of this people, bound up as it is with their traditions and their folklore, shows not a few points of resemblance to the myths of the nations of Northern Europe. This resemblance may be accidental, but it is significant and worthy of consideration in the scientific study of the human race.

#### CABLE COMMUNICATION WITH GERMANY.

In your article on the Atlantic cables I see no mention of one to Germany. Have we not direct cable communication with that country? KINQUAN, Kan.  
R. SAFFORD.

*Answer.*—Our cable connection with Germany is partly through one of the lines which we did mention. On the 22d of April, 1882, the submarine cable connecting Germany with the Anglo-American cables, and so with the United States, was opened by an interchange of courteous greetings between the Emperor William and President Arthur. The Emperor's brief message was transmitted from Berlin to Washington in nine minutes, and the President's reply returned in a fraction over ten minutes. This cable begins at Emden, at the mouth of the river Ems, between Hanover and the Netherlands, and runs down through the English Channel, and then turns northwest to reach the harbor of Valentia on the southwest coast of Ireland. Here it joins the Anglo-American cable as aforesaid. Up to the laying of this line our telegraphic communication with Germany had been overland through Ireland, England, and Belgium; but overland messages can not be kept as secret as the mercantile world would like, and hence a direct cable line was projected.

#### ONE HUNDRED AND NINTH ILLINOIS INFANTRY.

OREGON, Mo.  
B. F. MORGAN.  
Give history of the One Hundred and Ninth Illinois Infantry.

*Answer.*—The One Hundred and Ninth Illinois Infantry was raised in Union and Pulaski Counties, and mustered into the United States service Sept. 11, 1862. It remained in camp drilling until Oct. 20, when it was ordered to Cairo. Thence it moved southward, and, after some delay, it was attached to Quinby's division. It was kept in camp at Holly Springs and Memphis until the end of March, 1863. It was greatly reduced in numbers during the following summer, and was consolidated with the Eleventh Illinois Infantry.

#### INVISIBLE INK.

CHICAGO.  
EDMUND JOY.  
Give a recipe for making ink whose writing is only visible under the effect of heat.

*Answer.*—Invisible ink is made of several substances, but the most curious known is that made from cobalt. It is a very remarkable phenomenon that this ink may be made to disappear and reappear at pleasure. This property is peculiar to inks obtained from cobalt, for all the other kinds are at first invisible until some substance has been applied to make them appear; but when once they have appeared, they remain. To prepare this ink, take zaffre and dissolve it in nitro-



muriatic acid till the acid extracts from it the metallic part of the cobalt, which communicates to the zaffre a blue color; then dilute the solution, which is very acid, with common water; if you write with this liquid on paper, the characters will be invisible; but when exposed to a sufficient degree of heat they will become green. When the paper has cooled they will disappear. Observe, if the paper be too much heated they will not disappear at all.

## THE MOON HOAX.

CHICAGO.

Give an account of the "moon hoax" perpetrated on the newspapers some fifty years ago. What was the hoax, and who was its author? CECILIA MANN.

*Answer.*—The "moon hoax," as it was called, was one of the most stupendous as well as most successful hoaxes ever attempted. The circumstances of it were as follows: In 1835 Sir John Herschel made a voyage to the Cape of Good Hope, to take astronomical observations there. In September of that year there appeared in the *New York Sun* an account purporting to be a letter from Dr. Andrew Grant to the *Edinburgh Journal of Science*, giving a very elaborate and extraordinary account of discoveries made by Herschel, concerning the nature and inhabitants of the moon. The astronomer, by a remarkable combination of powerful telescopes and microscopes, was enabled to bring the moon so near that the observer could recognize the character of rocks on her surface, perceive the color of flowers, and detect the characteristics of animals and men there also. Although this was prior to the birth of Darwinism, several "missing links" were here discovered. Truly, as the author remarked, "Man may now fold the zodiac around him with a loftier consciousness of mental supremacy." The article was immediately issued in pamphlet form, both in this country and in England—in the latter edition reference to the *Journal of Science* and Dr. Grant were wisely omitted. A French translation also made its appearance in France. Notwithstanding the unmistakable "Star Spangled Banner" ring of sentences such as the one above quoted, general opinion for some time attributed the article to Nicolle, a French astronomer then living in New York (the French translation was undoubtedly by him), and his object was supposed to be to hoax Arago whose hobby was lunar discoveries, and with whom Nicolle had been on bad terms previous to the latter's departure from France for political reasons. The real author, however, was Richard Adams Locke, a news reporter and penny-aligner of the day, a young man of remarkable powers, but whose erratic temperament kept him from achieving any permanent success. In this country the "Moon Hoax" was a remarkable success. The edition of the *Sun* containing the article sold 600,000 copies. Of the pamphlet edition enormous numbers were sold. Except a few scientists who perceived the splendid absurdity of the detailed descriptions, and a few skeptics who never believed anything on principle, everybody was hoaxed. The newspapers were, as a rule, thoroughly taken in, though a few, like the *Philadelphia Inquirer*, would express no opinion, but left their readers to decide for themselves. The

*New York Times* did not in the least question the authenticity of the article, but declared that it "displayed an extraordinary knowledge of astronomy," and that its accounts "all are probable and plausible and have an air of intense verisimilitude."

There is something about the moon, R. A. Proctor affirms, which causes her to become a frequent victim of "deceivers." Every little while some extraordinary theory or story comes out concerning the lunar orb. For instance, in January, 1874, the *New York World* published the statement based on some mythical observations, that the moon's frame was gradually cracking, threatening to fall into separate fragments. In 1876 the *Chicago Times* gave an account of a powerful reflector constructed near Paris which showed buildings on the moon, also gangs of men chained together, the theory being that the side of the moon toward the earth was used because of its lack of atmosphere as a penal settlement. The latter reads like a poor imitation of the original "moon hoax," but there is reason to think that in both the above instances, it was a "special cable," and the victim taken in was the newspaper receiving it.

## ZULULAND AND ITS LAST KING.

NORTON, Ill.

Give an account of the British war in Zululand in 1879, and tell something about the people and King Cetewayo. M. T. JENKINS.

*Answer.*—Zululand is a country on the eastern coast of South Africa, just north of Natal, south and east of the Transvaal, and on the north separated by the country of the Swazis (a wild tribe) from the Portuguese settlements. Its area is about 10,000 square miles, and its population before the war of 1879 was about 250,000, all Zulus. This nation, though in no sense civilized, had yet advanced several stages beyond the state of simple savagery. The name Zulu signifies wanderer, and this name has come down from the tribe's early days of vagabondage. The Zulus date their history from the rule of their king Chaka, called the Zulu Napoleon, who, in 1812, becoming the chief of the tribe, began the work of carrying out a purpose which he had held from boyhood, that of creating a powerful army and bringing under one rule all the tribes of Southern Africa. His father had formed the first regiment of Zulu soldiers, modeling its organization on that of the white troops he had seen. Chaka further perfected the military system, drafting into his army all able-bodied Zulus, and forming the active men of each subjugated tribe into regiments. His scheme of conquest was so far successful that he had conquered sixty tribes and extended his territory from Pondo City to Delagoa Bay, and inland over part of the Transvaal and Orange Free State. His plan was to rule all the blacks as the English ruled the whites, and that there should be no interference between the races. His career was cut short in 1828, when he was murdered by his brother Dingaan, who then succeeded him as ruler. Dingaan was very cruel, and his rule was marked with much turbulence and bloodshed. In 1840

a Boer invasion, headed by his brother Panda, caused him to flee for refuge to a neighboring tribe, where he was put to death. Panda was now invested by the Boers with kingly authority. He was a man with much administrative ability, ruled the country well, making friends of the Dutch and English, and consolidating the Zulu nation. He died in 1872, after appointing his son Cetewayo as his successor. Cetewayo had been much impressed by the indications of power possessed by the English and wished them to install him as king. Accordingly, in August, 1873, Sir Theophilus Shepstone formally crowned him, in the presence of 10,000 warriors. After his coronation Cetewayo devoted his time and his remarkable executive genius to the organization and discipline of his army, not so much for purposes of conquest, apparently, as from desire to make the Zulus strong within their own borders. He had a savage's admiration for a strong nation, but that he was more inclined to peace than war is shown by the fact that the first, last, and only war of his reign, was that forced upon him by the British in 1879. The true history of this war shows that, while the British at home were made to believe it brought about by the aggressive action of the Zulus, it was actually a scheme of the Natal Government for strengthening its power, and that, without the knowledge of the home government or Cetewayo, it had been in preparation for some time before any action was taken. Various circumstances had prepared the way for the plan, principally the difficulties that had long existed between the Zulus and their neighbors of the Transvaal—the Boers. The Natal Government had long been anxious to annex the Transvaal, and when Sir Theophilus Shepstone went to England in 1876 he obtained authority from the Home Government to do so, by representing that the Boers greatly desired to come under English rule. That this was not true England learned later; but the Secretary, having secured the authority he desired, returned, and the following March, in spite of much opposition on the part of the Boers, he annexed the Transvaal country to Natal by proclamation.

Cetewayo expressed much satisfaction that his friends, the English, were going to rule over the Boers, whom he called "the bad people." (The dislike of the Zulus to the Boers, be it remembered, was well-founded, for these thrifty farmers not only encroached upon their land, but stole their children and made slaves of them.) And again the Zulu King begged for a settlement of the boundary question which caused continual quarrels between his people and the Boers. Sir Henry Bulwer, Governor of Natal, who seems to have been the only one of the English officers there inclined to give the savages fair treatment, then appointed a commission to look into this question. This commission met at Rorke's Drift, in Zululand, March 7, 1878, thoroughly investigated the matter, and decided that the land in dispute belonged of inheritance and right to the Zulus.

This decision was reported to Governor Bulwer, June 20, 1878, but through the influence of

Sir Bartle Frere, was not reported to Cetewayo until Dec. 11. For all this time, Sir Bartle Frere and Sir Theophilus Shepstone had been preparing for a war with the Zulus, and had used certain border quarrels—which might have been effectually stopped by the presence of a few police guards along the line—to induce the home government to send out troops, "to be ready for possible complications." The troops thus sent out, expecting to remain but a few months, were detained in South Africa for four years, first to fight the Zulus, and then to fight the Boers—so successful were Sir Bartle Frere and Sir Theophilus Shepstone in creating complications—and the most of them never saw their native land again. As we have said, the favorable decision of the boundary commission was reported to Cetewayo Dec. 11, 1878. On the same day—one hour later—a messenger reached him with an order from Sir Bartle Frere, an order which that gentleman had previously declared "must put an end to pacific relations with our neighbors." This order demanded of Cetewayo, (1) that he should pay large fines, in cattle, for offences of the Zulus on the border; (2) that he should disband his army, and not attempt to form it again; (3) that he should allow a British officer to live in Zululand, and assist him in administering the land. Naturally these peremptory orders aroused great wrath in the breast of King Cetewayo, but it is possible that had time been granted, the whole matter might have been settled without bloodshed. He agreed to pay the prices of cattle, and to consult with his indunas, or captains, about the other matters. Twenty days, however, was the utmost limit of time that Sir Bartle Frere would grant, although it was the rainy season, and communication in the hilly and roadless country was exceedingly difficult. Accordingly, Dec. 31, the army under Lord Chelmsford, which had been in drill ever since August, was ordered to advance across the border. The first important battle of the war was fought at Isandlwana, Jan. 22, 1879. Some of the incidents of this battle are very sad. It was fought over a very large expanse of country, and the English, not being acquainted with the land or the Zulu method of fighting, were badly defeated. In one place, by the criminal carelessness of the general, 600 officers and men were left in an absolutely defenseless camp on an open plain, and were nearly all killed, fighting valorously to the last, only yielding to overwhelming numbers. With cowardice even more criminal than his carelessness, Lord Chelmsford sent no one to bury these brave men who perished on the 22d of January, until the 21st of the following May. We have not space for more than a mere mention of the events of this war. On the same day as the battle of Isandlwana, the English garrison at Rorke's Drift was attacked, and forced to leave its defenses and retreat. The English troops did not advance again until they were re-enforced. Then, taught by experience, they garrisoned every stage of their way. Several closely contested battles occurred, but no second Zulu victory. In April the young Prince



Imperial of France joined the English army in search of renown, but only won an early and melancholy death. In June the English army, having been increased to 26,000 men, began its movement upon Cetewayo's kraal (or palace) at Ulundi, in the heart of Zululand, and there on July 4, the final battle was fought, resulting in a total defeat of the Zulu army.

From the first, the Zulu King insisted that he was fighting on the defensive only, and his actions did not belie his words. After the battle of Isandlwana he might have pushed his army over the border and completely annihilated the English force. A Zulu army list, made some two years before the war, gave the disciplined force as numbering 40,400 men, and it was probably then even larger. Sir Bartle Frere said that Cetewayo's failure to follow up the first advantage gained by his army could only be attributed to the "half-heartedness of a suspicious barbarian despot." But it seems to have been wholly due to his determination not himself to make war. His soldiers were all under strict orders not to go over into Natal to fight. His war-song was translated as "He keeps himself quiet! He does not begin the attack!" Between February 1 and July 1 this savage king had sent to his civilized invaders no less than twelve messages, all begging for peace. To these no answer was returned, for the policy of Lord Chelmsford was not peace. Besides, he knew that Sir Garnet Wolseley was on his way to take command of the South African troops, and he (Chelmsford) wanted the prestige of a victory before resigning his command. So the army was pushed forward until the battle of Ulundi was fought. The Zulu army was now dispersed and the king was pursued into the hill country and captured, August 13, 1879. Cetewayo was taken to Cape Town and kept a prisoner in that vicinity until the spring of 1882, when he was taken to England, lionized for a few months and then brought back. After his capture his kingdom had been divided into thirteen principalities, each ruled by a separate chief. A sense of injustice done to him, however, had gradually been forcing itself upon the English mind, and in December, 1882, Cetewayo was reinstated as King of Zululand, to rule it under due condition of vassalage to the British power. A strip of land next to the Natal border, comprising about one-third of the former territory of Zululand, was reserved as neutral native territory under imperial jurisdiction. Those who were unwilling to accept Cetewayo's rule could obtain lands in this reserve. The most powerful of the subordinate chiefs, Usibepu, was left in possession of a large extent of country at the north. Cetewayo's original Zululand, therefore, was considerably cut down. War between the restored King's army and that of Usibepu began immediately. In June, 1883, at a battle between these, Cetewayo's forces were routed and himself severely wounded. He was concealed by his people until recovered from his wounds, when he delivered himself to the English for protection. He was taken to Natal, where he died in March, 1884. During that year the Boers were allowed by the Natal Government to carry out their long-

cherished plan of taking possession of Western Zululand. Here they have made such aggressions upon the rights of the natives, after their usual fashion, that in November, 1886, a number of prominent citizens of Natal sent an appeal to the home government to take Zululand directly under British protection, and to define the boundary between the native country and that of the Boer Republic. The appeal has not yet (January, 1887,) been acted upon.

#### THE HOHENZOLLERNS.

RUSSELL, IOWA.  
Give some account of the ruling family of Germany, and their government. W. J. S.

*Answer.*—Kaiser Wilhelm belongs to the historic family of the Hohenzollerns. In a table of German emperors in our "Curiosity Shop" book for 1886 the reader will find the lineage of this family for many generations.

The royal house of Hohenzollern are descended from Count Thassilo, of Zollern, one of the generals of Charlemagne. His successor, Count Friedrich I., built the family castle of Hohenzollern, near the Danube, in the year 980. In 1415, the head of the family obtained possession of the province of Brandenburg, and two years later was recognized as an elector of the empire. A century later, the province of Prussia came into the possession of the family, through the election of Albrecht, a younger son, to the post of grand master of the province. This, together with the additions to the family possessions made by Friedrich Wilhelm in the seventeenth century, encouraged the son of the "great elector" to crown himself King at Königsberg, Jan. 18, 1701, under the title of Friedrich I. From this time forward the dominions of the Kings of Prussia steadily increased, until, after the war of 1866, the kingdom covered 137,066 square miles, with a population of nearly 23,000,000. With this growth in power came the natural rivalry with Austria. As far back as 1833 Prussia had formed the Zollverein, or customs union, of the German powers, excluding Austria. This was small loss financially to the great empire of Austria-Hungary, but it constituted a tie between Prussia and the German states, and threatened Austria's position as head of the German Confederation. This led to numberless jealousies and bickerings, until finally, in 1866, Prussia determined to exclude Austria from the confederation. The victory at Sadowa, July 3, settled this question, and Prussian influence became supreme in Germany; so that during the Franco-German war of 1870 King Wilhelm became Emperor Wilhelm I. of a newly organized German Empire.

The Hohenzollerns have always been despotic rulers. The kingdom had no definite constitution until 1849. Before that the kings had "entrusted" to a convocation of the provincial assemblies the right to be called upon to assist in raising money, by borrowing or by new taxes, but this practically amounted to little, as the king controlled the main sources of revenue, the crown lands and the custom duties. A Prussian diet was established in 1847, and the deputies assembled with great hopes of ob-

taining a share in the government. Disappointed in this hope, the tone of the liberal members became disloyal to the king's prerogatives. Some of them compared the situation with that of the English after the revolution of 1688. In answer to this, Captain (now Prince) von Bismarck, who sat as alternate for the representative of the Knight's estate of Jerichow, rose and replied that "the English people were then in a different position from that of the Prussian people now. A century of revolution and civil war had invested it with the right to dispose of the crown and bind it up with conditions accepted by William of Orange. The Prussian sovereigns were in possession of a crown, not by grace of the people, but by grace of God; an actually unconditional crown, some of the rights of which they voluntarily conceded to the people—an example rare in history." This was the position taken by the crown and its supporters. Compare it with the pretension of James I. of England, that the rights of Parliament were derived from the tolerance of the throne.

But popular sentiment was strongly in favor of liberal government, and riots occurred in Berlin, which the king tried vainly to subdue by concessions, first of a new ministry, and second of increased powers to the diet. The final crushing of the insurrection led to a conservative reaction, and the constitution of 1849 confirmed many of the disputed powers of royalty. Bismarck was looked upon as a rising man at this time, and the King soon recognized his merit by employing him as his representative in the German Diet at Frankfurt. King Friedrich Wilhelm IV. died in 1861, and was succeeded by his brother, the present sovereign. This confirmed Bismarck's power, and when in 1862 the Diet refused the appropriations necessary to carry out the government policy the Ministry resigned, and the King sent for Bismarck, who was in Paris, and made him Chancellor. The policy of Bismarck has always been that of despotic rule, and the Emperor, though in no sense a tyrant, is so completely under the sway of the traditional policy of the Prussian kings that he can not understand how a government can be stable without a strong element of despotism.

#### FIXING CRAYON DRAWINGS.

WARREN, Mo.  
Please give directions for fixing crayon drawings on paper so that they will not rub off.

MARY MASTER.

*Answer.*—The following method was given by a chemist before the American Association for the Advancement of Science. It can be used on any paper, sized or unsized, and with work in crayons of any color: Make a dilute varnish by adding twenty-five parts of spirits of turpentine to one part of Damar varnish; keep it in a corked bottle. To fix the drawing, a quart or more of the varnish should be poured into a trough (made of a piece of tin guttering) a little longer than the width of the paper, and the paper drawn through the varnish, which may or may not flow over the upper side of the paper; the latter may be then hung up to dry over night, and the drawing may be handled with no danger of blurring.

The color of the paper is scarcely altered by the varnish. Three gallons of turpentine and one pint of Damar varnish will wet about twenty pounds of paper. If one does not have a trough as mentioned above, the diagram may be hung up and the varnish rubbed on the back with a mass of cotton or with a wide brush. If it is desirable to add letters, figures, etc., to a diagram after it is fixed, such additions may be made, in crayon and then fixed by pressing a mass of cotton, wet with the varnish, directly down upon the part; no blotting will occur unless the cotton be moved from side to side.

#### ETHIOPIA AND THE ETHIOPIANS.

VERDIN, Ill.  
Give some account of ancient Ethiopia and its inhabitants and locate the boundaries of the country as known to moderns.  
R. H. JONES.

*Answer.*—Ancient Ethiopia included modern Nubia, Sennaar, and Abyssinia, together with as much of the country west of the White Nile as was then habitable and inhabited. The stream of the Nile 4,000 years ago was so impeded that Ethiopia was annually inundated, as the Nile delta is to-day, by an overflow of the river. This is asserted by tradition and seems borne out by examination of the geologic structure of the country, which indicates that the Nile bed has been greatly deepened by erosion during forty centuries. Further, travelers of ancient times tell of the "thunderous sound" of the cataracts, but in our time these are but little more than rapids. Prehistoric Ethiopia is said to have been a country of great wealth, and this statement is confirmed by the ruins of large cities within the limits of the ancient country, and other architectural monuments, which are not surpassed by those of Upper Egypt. The Bible asserts that the ancient Ethiopians were black, and the Greek writer, Herodotus, describes them as very dark with curly hair. But later record shows that at a very early date in history as we know it the immigration into the country from the Arabian peninsula had greatly modified the characteristics of the people, and there is not a doubt that the inhabitants of that country to-day are of Arabic origin. Wars began between the Ethiopians and Egyptians in very early times, no doubt, for fortresses built to oppose the former race in its encroachments on the latter near the second cataract of the Nile were probably constructed about 3,000 years B. C. Some 1,200 years later there were wars between the two countries which are recorded, in which Thothmes, King of Egypt, penetrated into Ethiopia, and left a statement of his victories on the rocks bordering the Nile. Again, about 1500 B. C., a revolt of the Ethiopians was quelled by the Egyptians, and later another revolt, in which the negro tribes of Libya took part, was put down by Ramesses I. after a long and bloody war. After Egypt was conquered by the Shepherd kings, 1344-1322 B. C., the dethroned Egyptian monarch went with 300,000 followers to Ethiopia and remained there until his son regained the throne. Something less than 1000 B. C. the Ethiopians invaded Egypt successfully, and a



few years later they pushed their way into Palestine, and were repulsed and driven out by Asa, King of Judah. Two centuries later the kings of Ethiopia gained the throne of Egypt, and held it for perhaps one hundred years. When the great King Cambyses conquered Egypt, 525 B. C., the Ethiopians were also threatened with absorption into the great Persian Empire. A large army marching against them by way of the Nubian Desert nearly perished with famine, and the mighty Cambyses had to yield his plans of conquest to the greater power of nature. When Darius attempted the subjugation of the world he contented himself with exacting a tribute only from the Ethiopians. The Greeks forced their way into the country and established Hellenic trading posts at the ports of the Red Sea. The Romans attempted an invasion in the time of Augustus, 20 B. C., but they were unsuccessful, the Ethiopian Queen, Candace, not only expelling the invaders but overrunning the Egyptian provinces of the Upper Nile. Later history identifies the Abyssinians as descendants of the ancient race of the Ethiopians. Though the name Ethiopia is supposed to be of Greek origin, meaning black, we find that the Abyssinians accept the name Itiopia as belonging to their country. Very little is known concerning the people of ancient Ethiopia, their customs and laws, but the inscriptions on temples and tombs in their country strongly resemble those of the Egyptians, and it is probable that the manners, religion, etc., of the two nations had many points of agreement.

#### ORIGIN OF ST. VALENTINE'S DAY.

MONROE, Ind.

Can Our Curiosity Shop give the origin of the custom of sending valentines on the 14th of February, and tell what St. Valentine had to do with it?

INQUIRER.

**Answer.**—It is said that a fact in natural history, to wit, that birds in Southern Europe pair about the middle of February, is the actual origin of the association of sentiment with this date. There is no doubt that the custom of sending valentines can be traced in origin to a practice among the ancient Romans. At the feast of the Lupercalia, which was held on the 15th of February in honor of the great god Pan, deriving its name from the place where it was held, the Lupercal—so called because it was supposed to be the spot where the four-footed foster-mother of Romulus and Remus administered nourishment to the little waifs—the names of all the virgin daughters of Rome were put in a box, and drawn therefrom by the young men. Each youth was bound to offer a gift to the maiden who fell to his lot, and to make her his partner during the time of the feast. No doubt this custom led to the formation of many life partnerships, which was undoubtedly what its practical originators desired. How this very secular custom became allied to the name of a saint is another matter entirely. St. Valentine was a bishop of Rome during the third century. He is reported to have been a man of most amiable nature and remarkable gifts of eloquence, so that he was very successful in converting the pagan Romans to Christianity. For this reason

he naturally incurred the displeasure of the Emperor, Marcus Aurelius Claudius, who hated and persecuted the little Christian band, and he was martyred by order of that ruler, first beaten with clubs and then beheaded. The date of his death was Feb. 14, 270 A. D. His bones are still exhibited to the credulous traveler at the Church of St. Praxedes, in Rome. Pope Julius erected a church to this worthy martyr's memory, and the gate leading to it, which is now the Porta del Popolo, was known for several centuries as Porta Valentini. Archbishop Wheatley, in his Illustrations of the Book of Common Prayer, says that "St. Valentine was a man of admirable parts, and so famous for his love and charity that the custom of choosing valentines upon this festival (which is still practiced) took its rise from thence." It is probable that the connection of name came from a coincidence of date only. When the saint came to be placed in the calendar, his name was given to the day of his death, and this was made a festival, to offset that of the Lupercalia, on the 15th. Alban Butler, in his "Lives of the Saints," tells us that the zealous fathers endeavored to substitute the names of saints for those of girls in this lottery, but without success. St. Francis de Sales, of Geneva, in the seventeenth century attempted a similar reform, ordering the drawing of the names of saints and holy men, whose virtues were deserving of imitation. Since imitating a saint is a more difficult task than dancing attendance on a pretty girl, we can not be surprised that the innovation did not "take," among the young men of Geneva. By some means this custom found its way into Great Britain, and was for many centuries in high favor both in England and Scotland. We find mention of it as early a date as 1446 and many times subsequently. It was called "chusing valentines;" probably because there was no choice in the matter. Here the young men as well as the young women wrote their names on billets to be drawn by the opposite sex. Thus each had two valentines, the one which he had drawn, and the one to whose lot he had fallen, and we are told it was the custom for the young man to prefer the former and to relieve himself from all obligations to the latter by a gift. Fortune having thus divided the company into couples, it was expected that the young men would devote themselves for a certain length of time to attendance on the maidens given them, "a sport which often ends in love," an old writer says, "as might be expected." Indeed, matrimony might be chosen by the young man from motives of economy, for he was expected to be lavish of gifts to his "valentine." Many other customs of medieval and later times might be noted, all having this large admixture of sentiment, which, unquestionably of purely secular, even pagan origin, have become by accident allied in name to a holy saint of the church.

#### PROTECTING LEAD WATER PIPES.

CHICAGO.

How can the action of water upon lead water-pipes be prevented?  
N. T. ROMAN.

**Answer.**—To protect lead water-pipes from the action of water, which often acts upon them

chemically, partially dissolving them, and injuring the pipes, as well as poisoning the water, is an important operation and by no means a difficult one. Fill the pipes with a warm and concentrated solution of sulphide of potassium or sodium; leave the solution in contact with the lead for about fifteen minutes and then blow it out. This coats the inside of the pipes with sulphide of lead, which is absolutely insoluble and can not be acted upon by water at all.

#### ONE HUNDRED AND TWELFTH ILLINOIS INFANTRY.

CANTON, Kan.  
Give a brief history of the One Hundred and Twelfth Illinois Infantry.  
P. H. ELWELL.

*Answer.*—The One Hundred and Twelfth Illinois Infantry was mustered into the United States service Sept. 22, 1862, at Peoria, and was afterward sent to Cincinnati and attached to the Army of the Ohio. It was encamped in Kentucky for some months and was employed in skirmishing and scouting. In 1863 the regiment was attached to General Smith's brigade. It was engaged in several minor engagements, and in February was sent to Knoxville. In the summer of 1863 it joined General Sherman's forces before Atlanta, and in the battles before that city it lost greatly in numbers. After the surrender of Atlanta it was encamped at Decatur, Ga., where it remained four months, and then started in pursuit of Hood, but met with no definite result. When Sherman started for the sea, the regiment went back to East Tennessee to look after Hood. It was in the battles at Franklin and Nashville. Soon after it went on to Washington, where it remained until it was ordered home for muster out.

#### THE ALABAMA.

MELVILLE, M. T.  
Give a description of the ship Alabama, and her career.  
R. ANDREW.

*Answer.*—The Alabama was a wooden steam sloop of about 1,040 tons register, built for the Confederate States by Laird & Sons, at Birkenhead, England. She was bark-rigged, was furnished with two engines of 350 horse-power each, and was pierced for twelve guns. Strict precautions were taken to keep her destination a secret, but before she was finished the United States Minister at London requested the British Government to detain her. The British ministers consulted with the Crown lawyers, and, after some delay, gave an opinion in favor of detaining the vessel. In the meantime the sloop had escaped under the pretext of a trial trip, near the end of July, 1862. She was not equipped with guns and stores when she left the Mersey, but received them at the port of Terceira, whither they had been conveyed by another vessel. In August, 1862, Captain Semmes took command of the steamer, named her the Alabama—up to this time she had been known only as "No. 290," from her number in the list of vessels constructed in the shipyards of the Lairds. The cruise was then begun with a crew of eighty men. All the vessels captured by this steamer were burned, as the ports of the Confederate States were at that time effectually blockaded by United States vessels. It is asserted as a fact that the Alabama during her entire career of nearly two years—

vessels and destroyed property valued at \$6,000,000—never entered a Confederate port. At last, after a long cruise in the Pacific Ocean, the Alabama returned to England, and entered the port of Cherbourg to refit and obtain a supply of stores. This was on June 11, 1864. Several days later the United States war steamer Kearsarge, commanded by Captain Winslow, arrived at Cherbourg. On the 19th of June Captain Semmes came out of the port and offered battle. When the vessels were about one mile apart the fight began. The Alabama's fire was rapid, but her guns were not well managed, and the shots took but little effect. The Kearsarge guns, on the other hand, were served with precision, and her shots were much more effective. Both vessels during the action moved about in circles around an ever-changing center. After seven circuits of this kind the Alabama began to sink, and raised a white flag. Thirty of her crew had been killed and wounded, while the Kearsarge had lost but three men. Captain Semmes escaped in an English boat, but his crew, sixty-five in all, surrendered. The Alabama went to the bottom.

#### PRIME MINISTERS UNDER GEORGE III.

Give the list and term of office of the prime ministers under George III.  
W. S. WADLEIGH.

*Answer.*—When George III. came to the throne in 1760, the Duke of Newcastle was prime minister. The others who followed him during the long reign of this sovereign succeeded to office at the dates given: Earl of Bute, May 29, 1762; George Grenville, April 16, 1763; Marquis of Rockingham, July 12, 1765; Duke of Grafton, Aug. 2, 1766; Lord North, Jan. 28, 1770; Marquis of Rockingham, March 30, 1782; Earl of Shelburne, July 3, 1782; Duke of Portland, April 5, 1783; William Pitt, Dec. 27, 1783; Henry Addington, March 7, 1801; William Pitt, May 12, 1804; Lord Grenville, Jan. 8, 1806; Duke of Portland, March 13, 1807; Spencer Perceval, Jan. 23, 1810; Earl of Liverpool, June 8, 1812.

#### THE PEACEMAKER.

CHICAGO.  
Give description of the new submarine torpedo boat recently successfully tried on the Hudson River.  
H. NEWTON.

*Answer.*—This boat was tried first late in the summer of 1886. It was constructed by C. H. Delamater & Co., of New York, and is owned by the Submarine Monitor Company. It is thirty feet in length, with a breadth of beam of eight and one-half feet. The bow and stem taper off from amidships, and the forward end of the vessel is surmounted by a dome twelve inches high. This is set with glass and is the pilot-house. Entrance to the boat is through a scuttle abaft of this dome. At the stern is a propeller and an ordinary rudder. There are two horizontal rudders, with which the boat may be deflected up or down. The interior of the boat is about half filled with machinery, including a powerful little Westinghouse engine. Compressed air is stored in six-inch pipes running around the interior, and arrangements are made by which air may be supplied by chemicals. A gauge registers the depth of the vessel beneath the surface of the water. An incan-



descent electric lamp furnishes the light. It is destined to use two torpedoes attached together by a chain and fastened to corked magnets, which will attach themselves to the iron or steel sheathing of a vessel to be destroyed. These are to be fired by electricity after the torpedo boat has retreated to a safe distance. The name given to this boat is the "Peacemaker," so called because it hastens the era of peace by destroying war vessels. Thus far it has worked very successfully, and promises to be a valuable addition to our navy. We shall have no need of an elaborate system of coast fortifications, if our harbors are defended by these little boats. No iron-clad can withstand the force of a torpedo exploded below its keel, and the Peacemaker moves so swiftly and stealthily that it is almost impossible to guard against its approaches.

#### HISTORY OF MUSIC.

Give a history of the origin and development of music.

BREMEN, Ind.  
development of  
S. KNOBLOCK.

*Answer.*—The history of music is older than that of civilization. Even instrumental music existed at a very early date, as representations of musical instruments are to be seen on the most ancient Egyptian inscriptions. No relics of Egyptian music exist now, however, and it is impossible to infer what it might have been. It is supposed that the Hebrews obtained their knowledge of music from the Egyptians. The cultivation of melody was carried on considerably among the Hebrews, and we know that they had a number of instruments, both wind and stringed, but we know little of what their music actually was. With the Chinese, Hindoos, and Japanese the art of music is probably unchanged from what it was 1,000 years ago. The Chinese have some sweet-toned instruments and a clear notation, but their music is so lacking in the element of harmony that it is very unpleasant to refined ears. A higher style of music exists in India, and has probably been known there from very remote times. The Persians have always had more intuitive knowledge of harmony than other Oriental nations, which is due probably to the fact that the birds of that country have sweeter notes. The Greeks numbered music among the sciences, and studied the mathematical proportions of sounds. But Greek music was probably little more than sonorous declamation, sustained by the lyre and pleasant notes from the flute and pipes. In the Greek drama the words were not spoken, but sung or chanted. The Romans borrowed their music from the Etruscans and the Greeks, and had musical instruments, but they never made any real progress in the art. The music of modern Europe is a new art, therefore, nothing similar to which existed among the nations of old. The music of the early Christian church was undoubtedly the germ of the art. A number of the early prelates of the church interested themselves greatly in the advancement of music, as St. Ambrose, who selected the four scales in which the music of the church should be written, and Pope Gregory I. who wrote the Gregorian chant. Notation by lines

and spaces was originated by Guido of Arazzo-Franco of Cologne in the thirteenth century first indicated the length of notes by their diversity of form. During the ninth century the secrets of harmony first began to be discovered, for previous to that time all performers sang the melody. At first the octave, fourth, and fifth only were used, the parts progressing together. At the same time that the church was making progress in music the songs of the people were coming into existence. Stringed instruments, though very simple in kind, began to be used by the peasantry, and to satisfy this wakening love of music a class of wandering singers came into existence. These, known as minstrels, troubadours, or minnesingers, exerted a wide influence upon the people, and contributed much to the development of music in the middle ages. After the troubadours began to disappear in the fourteenth century the study of music came into prominence in the Netherlands, and for over a century and a half the Flemish composers and musicians instructed Europe in the art. The discovery of printing music early in the sixteenth century served greatly to diffuse musical knowledge. Among musical instruments the organ seems to have existed in a rude form from about the third century, and even until the twelfth century its compass did not exceed fifteen tones, the pipes were of brass and harsh in tone, and the keys were broad and large, to be struck with the fist. Pedals, or foot-keys, were added in the fifteenth century, and improvements in the instrument followed, some very fine instruments being built in the sixteenth and seventeenth centuries. In stringed instruments, the virginal, the spinet, the clavi-chord, and the harpsichord—all of these rude precursors of the pianoforte—were in use in the fifteenth and sixteenth centuries, also the viol, guitar, and the flute. The violin came to perfection almost immediately after its invention in the sixteenth century. The miracle plays and masks of mediæval times prepared the way for operas and oratorios, which both came into existence in the year 1600 in Italy. This country led the world in musical art in the seventeenth century, but the eighteenth century was the age of grand composers and performers in music in Europe, though many of them belong to the nineteenth century also. Such composers as Bach, Haydn, Handel, Mozart, and Beethoven have influenced and elevated the world. The pianoforte was first made early in the eighteenth century, but the improvements that have made it the perfect instrument that it now is belong to later times. The first grand piano was made about 1780, the upright piano in 1795. The finest pianos in the world, in workmanship and perfection, are those made in the United States, the various improvements introduced by Chickering & Sons, Steinway & Sons, and others, having created the standard of fine construction for the world. The reed organ was also an American invention, being first made in Massachusetts in 1818, and melodeons, seraphines, and parlor organs are all American applications of the same principle.

Some wonderful improvements in pipe organs belong to the construction of the instrument in Europe and America in later times, as the pneumatic lever, the supply of wind by electrical action or by steam power. The largest organ in the world is in Albert Hall, London.

#### LEIGH SMITH AND THE EIRA.

VERNON, III.

Give some account of the explorations of the arctic traveler, Leigh Smith, and especially of his voyage in the Eira.

M. MEERTON.

*Answer.*—Mr. W. Leigh Smith was a wealthy gentleman of Sussex, England, who, after amassing quite a fortune in business, was suddenly seized with a desire to spend it in a search for the North Pole. He made his first voyage to high latitudes in 1871 in his yacht Samson, and brought back some important contributions to our knowledge of the polar regions. He sailed again in 1872 and 1873 in the Diana, but this trip was not so noteworthy as that made in the Eira in 1880. The Eira was a steam yacht of 360 tons burden, built expressly for arctic exploration, and Mr. Smith sailed in her from Peterhead on the 10th of June. Reaching Franz Josef Land, which was discovered by Weyprecht and Payer in 1874, he found it to be either one of an extensive archipelago of islands or the point of a continuous stretch of land extending to the northwest, and he discovered a desirable harbor. It is Peterman's theory that an archipelago extends right across the pole. Mr. Leigh Smith's discoveries went measurably to confirm this theory. The gold medal of the Royal Geographical Society was awarded to the plucky and fortunate explorer, who set sail again June 13, 1881, with Dr. Neale, Captain Lofley, and a crew of twenty-two men, the vessel being provisioned for fourteen months and having a two years' supply of flour and bread. His intention was to revisit Franz Josef Land and explore its western coast, pushing northward near the meridian of Wicke's Land, but he had no intention of passing a winter in the ice, and consequently did not indicate the area of his proposed explorations or the line of retreat he would adopt in case of accident. The Eira was last seen on the 8th of July, 1881, off the west coast of Nova Zembla, going northward. No word having been received of the ship for over a year, an expedition was fitted out to send in search of her. To the expenses of this expedition the Royal Geographical Society contributed £1,000 and the government £5,000, Mr. Smith's family defraying the remainder of the cost. It consisted of a steam whaler, the Hope, which was commanded by Sir Allen Young. It left London in June, 1882. Three other vessels were also sent in search of the Eira, one by two other English gentlemen, another by Holland scientists, and yet another by Russians. The Hope reached Peterhead, Aberdeen, Aug. 20 following, bringing the entire crew of the missing vessel. The Eira had been caught in the ice and sunk off Cape Flora, on Aug. 21, 1881. The points of Mr. Leigh Smith's narrative were as follows: Reaching Franz Josef Land in July, he spent some time in searching a passage through the ice to the north, and

had anchored off the cape to await a break in the floe, when his vessel was caught. All on board made good their escape to the ice and afterward to land, bearing a limited supply of food and clothing. Here these twenty-five men built a hut and lived for three months, subsisting on provisions they had saved and on the bear and walrus they could kill. Very little wood had been saved, and fire was made chiefly by means of blubber and rope, which emitted a stifling smoke. Fortunately all the ship's boats had been saved, and on the 21st of June the shipwrecked mariners started for Nova Zembla, reaching Matocchyen Straits Aug. 2. Here they were found the following day by the schooner William Barents, which had been dispatched from Holland in search of them. The steamer Hope was cruising in the same waters, and soon came up, as did also the Russian schooner engaged in the same search. The sailors, more fortunate than most Arctic travelers, were all brought home alive and well.

#### EARLY HISTORY OF SWEDEN.

CHICAGO.

Give some account of Sweden before the introduction of Christianity, how and by whom ruled.

L. ENGSTROM.

*Answer.*—The early history of Sweden is confused and full of myths. The first inhabitants of the country were the Lapps and Finns. These were dispossessed in the South by the Gauta or Goths, and in the North by the Svea or Swedes. The latter tribe claimed to have been led into the country by Odin, the Jupiter, or chief god, of Northern mythology, himself, and their first king was Njord, the son of Odin. The whole story no doubt originated in the desire that savage nations have to deify their successful leaders. The date of this settlement of the Svea in Sweden must have been about the beginning of the Christian era. The grandson of Odin, Frey Yngve, founded the Ynglingar dynasty, which ruled the Svea for several centuries. This king also built the great temple of Upsala, which subsequently became the national sanctuary not only for the Swedes, but the Goths also, the two nations holding a common mythology. In the seventh century, Ingjaldr Ill-raada, the king, endeavored to bring the Goths and the Swedes under one rule, but failed. His measures were so tyrannical that the two tribes united to overthrow him. The King and all his family—except one son, Olaf, who escaped into Norway—were burned alive, and this ended the Ynglingar dynasty in Sweden. It was succeeded by the Skjoldungars, who also claimed descent from Odin and whose first ruler was Ivar Vidfamne, who held sway for a time at least over both the Swedes and the Goths. Some time in the 8th century the mythical battle of Bravalla, famed in the Skalds or minstrel songs of the Northmen, occurred. In this fight Sigurd Ring, king of Sweden, defeated Harold of Denmark. Sigurd's son was Ragnar Lodbrog, one of the daring viking pirates who led the invasion of the Northmen into England. The tradition is that he was taken prisoner by King Aella of Northumberland, and put to death by being thrown into a pit of serpents. His sons avenged his death by over-



throwing the Northumbrians in a great battle, and putting Ælla to death with tortures. With the mission of St. Ansgarius to the tribes of Scandinavia, 829-865, authentic history may be said to begin. Many were converted by the good bishop's preaching, but he did not succeed in establishing Christianity. King Erik Edmondsson, whose reign ended in 885, united the whole of Sweden under one rule. He also made important conquests in neighboring countries, and sent out colonies who settled around Novgorod, on the Baltic, subjugated the Slavs, and laid the foundation of the future empire of Russia. The year 1000, in the reign of Olaf the Lap-King, is usually given as the date of the introduction of Christianity into Sweden. In that year King Olaf was baptized and a bishopric was formed in the kingdom, but the struggle between heathenism and the new religion did not cease until the grand temple of Uppsala was burned, about 1085—in the reign of King Inge. The subsequent history of Sweden and the lineage of the kings has been given in this department, and will be found in Our Curiosity Shop book for 1886.

#### THE FREEDMAN'S BANK.

Give a history of the Freedman's Bank, and causes of its failure.

ELK FALLS, Kan.  
SUBSCRIBER.

*Answer.*—The Freedman's Bank was proposed as a purely charitable enterprise to encourage frugality and thrift among the newly liberated blacks. Mr. Sumner reported the bill chartering the bank, Feb. 17, 1865, and on the 3d of March, following, it became a law. The bank was established in Washington, and branch banks to the number of thirty-four were (afterward) located in different parts of the union. The institution was authorized to receive the deposits of negroes, and invest the same in the stocks, bonds, Treasury notes, or other securities of the United States. It was not intended to be a money-making concern, either for bankers or depositors, but to provide for the safe-keeping of the freedmen's savings. The government did not guarantee the safety of the bank—though the negroes were generally made to believe that it had done so—nor did it take the proper precautions to secure honest management. As a consequence, a number of the trustees, who were also implicated in many other financial irregularities, were enabled to take complete control of the bank, and manage it to suit their own interests. During the nine years of the bank's existence, it handled no less than \$56,000,000 of deposits. Then it suspended payment, and a committee of Congress was appointed to investigate matters. It found that the bank had been scandalously mismanaged, its charter regulations ignored, and its funds dissipated by loaning on inadequate security. By law, the investments of the bank were confined to government securities, but this law was ignored, and the funds used to aid the wild-cat schemes of the "ring" and their friends. Unimproved real estate, unsalable stocks (such as that of the Maryland Freestone Mining and Manufacturing Company, alias the

"Seneca Stone Company"), and personal notes, were among the assets of the bank. Deficits and embezzlements at the branch banks also produced many losses. The unsecured debts owed by the bank to depositors July 13, 1874, amounted to \$2,900,000. The assets, which realized more than was expected, yielded nearly \$1,700,000. Dividends have been paid at various times, but many small depositors, through ignorance and despair, forfeited their dividends by not calling for them. In all 77,000 dividends, amounting to \$112,000, were thus forfeited. The cost of "winding up" this bank was \$475,000. For some years three bank commissioners were employed at a salary of \$3,000 each. But in February, 1881, the affairs of the bank were all turned over to the Comptroller of the currency, at a great saving of expense.

#### SOME INTRICATE KNOTS.

CHICAGO.

Can the Curiosity Shop describe how the weavers' knot, the reef knot, and the bowline knot are tied? Also any similar curious knots used by sailors.

M. MENTON.

*Answer.*—It is not a very difficult task to tie a neat and secure knot, but comparatively few persons can do it. Nor is it easy to show how it is done without the help of illustrations, but the following directions are as explicit as mere words can make them. The weaver's knot is the one employed in netting, and sailors call it the "sheet bend." To make it, bend one piece of cord into a loop, holding it between the finger and thumb of the left hand; the other cord is passed through the loop from the further side, then round behind the two legs of the loop, and lastly under itself. In the smallness of its size and the firmness of its hold this knot surpasses every other; it can, moreover, be tied readily when one of the pieces is exceedingly short, less than an inch of common stout twine being sufficient to form the loop. So firmly do the various turns hold each other that after being tightly pulled it is very hard to untie; this is the only drawback to its usefulness. In making a reef knot it is necessary to observe that the two parts of each string are on the same side of the loop; if they are not the ends (and the loops, if any are formed) are at right angles to the cords. This knot is less secure than the weaver's knot, and sailors call it a "granny knot." It is made precisely as a shoestring is tied, only the ends are generally pulled out instead of being left in bows. The bowline knot is used in slinging heavy bodies; it can not slip, and will stand the heaviest strain. Take the fixed or standing part of the rope in the left hand, lay the free end over it, and then by a twist of the wrist make a loop in the standing part which shall enclose the free end; then carry the free end behind the standing part and through the loop, parallel with itself. This knot is the hardest one to learn, but will well repay, by its usefulness, the trouble in learning it. Another knot is what is called the binding knot, and is exceedingly useful in connecting broken sticks, rods, and the like. To make it, lay a loop of the cord upon the stick, across the break, then bind the long end of the loop about the stick many

times, finally pass its end through the upper part of the loop, and tighten it by drawing down the short end of the cord. Another knot is known to sailors as "the double half hitch," or "the clove hitch," and is an especially useful knot to fasten a cord to any cylindrical object. Form two loops, precisely similar in every respect, then pass the second loop over the object to be tied, and then the first above it, now tighten by drawing the ends. If this is properly done the knot will not slip, though it may be tied around a perfectly smooth cylinder. This knot is employed by surgeons in reducing dislocations of the last joint of the thumb, and by sailors in a great part of the standing rigging, and in mooring a boat by a cable to a post or similar object on the shore.

#### CHEMICAL SACCHARINE.

Some time during 1886 it was announced that a new chemical compound had been discovered which was destined to take the place of sugar. What was this and how was it made?

NORMAL, Ill.

E. HARMON.

*Answer.*—This new sweetening agent is made from coal tar, but its process of manufacture is still a secret. It is known to chemistry as "benzoyl sulphuric imide," but it is proposed to name it saccharine. It was discovered by Dr. Fahlberg. It presents the appearance, when dry, of a white powder, but crystallizes in water, the crystals dissolving slowly if the water is warm. It is sweetness intensified, being 230 times sweeter than the best sugar. One part saccharine will give a very sweet taste to 10,000 parts of water. It is also antiseptic, so that fermentation need not be feared. It will doubtless be used in sweetening glucose sugars, and as it is perfectly wholesome, there seems no reason why it should not be so used.

#### TWENTY-NINTH ILLINOIS INFANTRY.

LOGAN, Ill.

Give brief history of the Twenty-ninth Illinois Infantry, giving the names of officers of company H, and what became of them.

ALBERT WILKEN.

*Answer.*—The Twenty-ninth Infantry was mustered in at Camp Butler, Ill., Aug. 19, 1861, and was sent to Cairo early in September. It took part in the fights at Fort Henry and Donelson, losing in the latter engagement 100 in killed and wounded. It also bore an honorable part in the battle of Shiloh, losing heavily there. In the summer it was stationed at Jackson, Tenn., and Dec. 1 went into camp at Holly Springs, Miss. Here eight companies of the regiment were taken prisoners, paroled and sent to Benton Barracks where they remained until July, 1863, when they were exchanged and returned to duty. Meanwhile the two companies of the regiment not captured were assigned to the western navy early in 1863, where they served with distinction during the siege of Vicksburg. In October the 131st Infantry was consolidated with the Twenty-ninth, and, Dec. 1, 1863, moved to Natchez, where it remained on garrison duty till January, when it re-enlisted. It received veteran furlough in July. In August was sent to Natchez, then was sent back to Memphis. Jan. 1, 1865, was sent to New Orleans, thence was sent on to Mobile in March, and took

an active part in the siege of Spanish Fort. Was sent to Texas in June, where it remained until its muster-out in the following November. The officers of Company H at the date of muster were: Captain, Jason B. Sprague; First Lieutenant, Abner Hostetter, and Second Lieutenant, Wm. H. Stewart. Captain Sprague was killed at Shiloh April 6, 1862; was succeeded by Robert K. Collins, who resigned Sept. 4, 1863, and his successor was Richard M. Bozman. First Lieutenant Hostetter died March 29, 1862. His successor, Spencer Maynard, resigned Sept. 19, 1863; was followed by Isaac S. Armstrong, who was discharged May 12, 1865, his place being taken by William T. Wilkins. Second Lieutenant Stewart resigned March 4, 1862; was followed by James A. Peter, who was discharged Jan. 18, 1865; the position was held by W. T. Wilkins till his promotion in May following, and from that time till muster-out by John P. Simpson.

#### THE ROYAL GAME OF GOOSE.

ELK FALLS, Kan.

What is meant by the allusion in Goldsmith's poem to "the twelve good rules, and the royal game of goose?"

READER.

*Answer.*—The "twelve good rules," to which the poet's phrase alludes, were well known to English readers one hundred years and more ago. They were quoted often in literature and common phrase, but who originated them is not known. They have been ascribed to King Charles II. and the poet Crabbe says:

"There is King Charles and all his golden rules,  
Who proved misfortune was the best of schools,"  
But while the worldly wisdom of this king—  
"Who never said a foolish thing and never did a wise one—"

was quite capable of formulating such a set of excellent precepts, though utterly incapable of following his own teaching, the probabilities are that these rules were rather the garnered wisdom of many preceptors, and that they ante-dated, by some years, the time of the "Merry Monarch."

They are: 1. Urge no battles. 2. Profane no divine ordinances. 3. Touch no state matters. 4. Reveal no secrets. 5. Pick no quarrels. 6. Make no companions. 7. Maintain no ill opinions. 8. Keep no bad company. 9. Encourage no vice. 10. Make no long meals. 11. Repeat no grievances. 12. Lay no wagers.

The royal game of goose is a very old game. It may be played by two persons, but will admit of the co-operation of many more. It originated in Germany, and is well calculated to make children ready at reckoning the product of two given numbers. The table used for goose is generally about the size of a sheet almanac, and divided into sixty-two small compartments, arranged in a spiral form, with a large open space in the middle marked with the number sixty-three. The lesser compartments have singly an appropriate number from one to sixty-two, inclusive, beginning at the outmost extremity of the spiral lines. It is played with two dice, and every player throws in his turn as he sits at the table; he must have a counter, or some other small mark, which he can distin-



guish from the marks of his antagonists, and, according to the amount of the two numbers thrown upon the dice, he places his mark: that is to say, if he throws a four and a five, which amount to nine, he places his mark at nine upon the table, moving it the next throw as many numbers forward as the dice permit him, and so on until the game is completed, namely, when the number sixty-three is made exactly; all above it the player counts back, and then throws again in his turn. It is called the game of goose, because at every fourth and fifth compartment in succession a goose is depicted, and if the cast thrown by a player falls upon a goose he moves forward double the number of his throw. It is called royal, no doubt, because worthy to be played by kings.

## THE TREATY OF PARIS.

MINDEN, Neb.

Give the history of the treaty of 1856 in Europe. What governments were concerned in it?

J. P. GREEN.

*Answer.*—All Europe, as well as the parties involved, had become weary of the causeless and fruitless war in the Crimea, and in 1855 there was a general demand for peace. After the fall of Kars, Nov. 28, 1855, Austria undertook the office of mediator. The basis of a pacification was agreed upon in January, 1856, and an armistice was concluded. Feb. 25 delegate plenipotentiaries of Russia, France, England, Austria, Turkey, and Sardinia met at Paris. Later they were joined by envoys from Prussia. By these the conditions of the "peace of Paris" were agreed upon, which were substantially as follows: The Russian protectorate over the Danubian principalities was abolished; the free navigation of the Danube was secured by the appointment of an international commission; the Black Sea was neutralized—that is, its navigation was made free to peaceful vessels at all times, and all ships of war, including those of Turkey and Russia, were to be excluded, except a number of light vessels to protect the coast; the Sultan agreed to confirm the privileges of his Christian subjects on the agreement of the powers not to use his conduct toward them as a pretext for interfering with his domestic administration, and the Turkish Government was to be admitted to all the advantages of international law in the European concert. Russia agreed to restore Kars and to retire from the Danube by ceding the part of Bessarabia which she had held to Roumania, and the allies agreed to evacuate Sevastopol and all other points taken in the Crimea. Four rules concerning naval warfare were also adopted, which were as follows: 1. Privateering is and remains abolished. 2. The neutral flag covers an enemy's goods, except contraband of war. 3. Neutral goods, except contraband of war, are not liable to capture under an enemy's flag. 4. Blockades, to be binding, must be effective. The treaty was signed March 30. Somewhat later France, Austria, and Great Britain concluded a separate agreement to guarantee the independence and integrity of the Turkish empire. In 1858-59 the members of the Paris conference settled the relations of the provinces of Molda-

via and Wallachia, which were united in one country under the name of Roumania.

## NATIVITY OF SOLDIERS.

BELLOM, Col.

How many native-born Americans were there in the Union army during the civil war? How many Irish, English, and Canadians?

FRANK WHITE.

*Answer.*—We find the nationality of soldiers in the Federal army during the war of the rebellion given as follows:

Native American.....	1,523,300
British American.....	53,500
English.....	45,500
Irish.....	144,200
German.....	176,800
Other foreigners.....	48,400
Nativity unknown, mostly foreign.....	26,500

Total.....2,018,200

The sum total does not equal the number given by Phisterer's Statistical Record of the United States army, as enlisted during the war of the rebellion. This work, probably the most correct record ever completed, makes no attempt to group the soldiers by nationalities. In fact, it could not be accurately done, as in many instances the nationality was not entered in the record of enlistment. But the above table is no doubt approximately correct, and the estimate of 75 per cent rather under than over states the number of native-born Americans in our great volunteer army.

## BIPARTAN RIGHTS.

ARKANSAS CITY, Kan.

Along streams in the United States to whom does the land lying between high and low water mark belong, and what rights have the public therein?

INQUIRER.

*Answer.*—The question is decided generally by the principle of common law, which makes all arms of the sea and navigable rivers public property, and gives to the owner of land on an unnavigable stream the ownership of the bed of the river to its center line. According to common law interpretation all rivers where the tide did not ebb and flow were unnavigable. The grant of a piece of land bounded by a river will carry the exclusive right and title of the grantee to the middle of the river, unless it is expressly stipulated that the land conveyed extends only to the margin, or low-water mark of the stream. If a person owns the land on both sides of a stream, he also owns the entire stream as far as his land extends. Where the river though not navigable in the common law sense yet can be used for the passage of boats or rafts, the right of the owner of the land must give way to the public convenience, and the passage of craft can not be obstructed without laying the owner open to complaint for interfering with public rights. The owners, however, hold land under such streams subject to the public right of passage over it. Rivers in which the tide flows, or lakes, are public property; the land beneath them belongs to the State, and grants of land on them only extend to the low-water margin of the stream. The State may, however, make a grant of the bed of such bodies of water to those living on the adjoining shore. The courts have decided that the common law definition of a navigable stream does not apply to the large rivers of the United States which have no

tides. These are declared to be properly navigable, and the boundaries of adjacent lands extend only to low-water mark of the stream.

#### THE LATIN UNION.

What States comprise the Latin Union? Give circumstances of its formation. New Point. Mo.  
A. W. D.

*Answer.*—France, Italy, Belgium, and Switzerland, in 1865, formed a combination that was known as the Latin Union. They entered into an agreement by which the amount of silver to be coined yearly was fixed for each member of the union. The coinage of all the countries was of like character, and to be received without discount throughout the union on public and private account. Greece joined the union in 1868, Spain in 1871, and subsequently Serbia and Roumania also became members. Some of the South American States also use the Latin Union coinage. Spain alone of the countries of the union coins a gold piece not used by the others. The unit of coinage in the Latin Union is the franc; it has different names elsewhere, as in Italy, the lira; in Serbia, the dinar; in Spain, the peseta, but the value is always the same. The perfect decimal system of France is also used, and the convenience of the coinage has led to its wide adoption. It is the most widely circulated coinage system in Europe, being used by about 148,000,000 of people. The system is theoretically a double-standard one, with a ratio of  $15\frac{1}{2}$  to 1; but the states of the union, in 1874, by mutual consent, practically suspended the coinage of silver, thus producing what is called a "limping standard," the effect being to keep coined silver above its market value.

#### IS MATRIMONY A SACRAMENT?

DODGEVILLE, Wis.  
For what reasons did the Protestant churches reject the Catholic dogma that matrimony is a sacrament?  
HALVOR KNUSTON.

*Answer.*—The Romish dogma concerning the sacramental nature of matrimony is founded on the words of Paul concerning the marriage relation. "This is a great mystery; but I speak concerning Christ and the church" (Eph. v. 32), the Douay Bible giving the passage thus: "This is a great sacrament, but I speak in Christ and in the church." From this it is claimed that Christ instituted matrimony as a sacrament, and his presence at the marriage in Cana is adduced as probable evidence of this. Further, the frequent comparison of the marriage relation to the relation that exists between Christ and the church is regarded as giving sanctity thereto. On the other hand, this dogma was rejected by the Protestant churches for several reasons: 1. Marriage was instituted in the earliest ages, and existed among all races long before the coming of Christ; therefore, it can not be regarded as a sacrament of the gospel. 2. In every sacrament there must be an outward and visible sign of an inward and spiritual grace imparted by divine power, neither of which exists in matrimony. 3. None but pious persons can partake of the sacraments, but piety is not a condition of marriage, which is observed quite as much among infidels and wicked persons, and even more, than

among the holy. 4. It is necessary that a sacrament should have been instituted by Christ, but there is no record in the New Testament of the words in which the Savior made such institution, or the circumstances connected with it. The Council of Trent in 1563, which enacted very positive legislation on the subject, pronouncing the anathema of the church on all who deny the sacramental nature of marriage, affirmed that Christ instituted the sacrament, but it gave neither chapter nor verse to prove the assertion. It is impossible to say at what period in the history of the church this dogma of the sacrament of marriage was first taught, since no allusion to it is made by the early Christian Fathers. And it is especially hard to ascertain this, since we find the antagonistic opinion that the celibate state was more holy than that of marriage strongly defended by certain writers of the early centuries. The Romish Church is charged—and with some show of reason—with grave inconsistency in forbidding to their priests an ordinance as polluting which for the laymen they claim to be a sanctifying rite, one of the church's means of grace. The reader will find an article giving a history of the establishment of celibacy as a rule of the Romish priesthood in Our Curiosity Shop Book for 1886.

#### GOLD MINES OF THE AMOOR.

SIOUX CITY, Iowa.  
Give some description of the new gold mines in Asia which have been called the "New California."  
To whom do the mines belong? R. ORMANN.

*Answer.*—These mines are in the valley of the Djolgate River, in Asia. This valley is upon the Chinese bank of the Amoor opposite the Russian colony of Tegnachino, and as the soil is very marshy and there are no roads, it is only accessible in winter. Gold was first discovered in May, 1884, and it soon attracted a great many adventurers, the earliest comers being Russian deserters and escaped convicts from Siberia, and by the beginning of January, 1885, there was a colony of 9,000 Russians, the total having been much increased since, while there are also about 6,000 Chinese and 150 adventurers of different nationalities, the last named of whom have joined the Russians, the organization of the colony being altogether Russian. The gold mining is carried on under strict rules and a rigidly organized system. The gold finders are divided into small groups of men and a corps of twelve officers is elected to superintend the work and preserve good order. Drunkenness is punished with flogging, and theft, cheating at cards, or adulteration of gold dust are adjudged worthy of death. The gold fields, which are twenty-five miles in length by three miles broad, are said to be very rich, and seven pounds of gold are obtained from 3,200 weight of gravel, even with the primitive mode of washing adopted there.

#### POSITION OF THE EARTH'S AXIS.

PHILO, Ill.  
What would be the effect on the seasons if the earth's axis were changed in position?  
C. H. VAN VLECK.

*Answer.*—The axis of the earth is now inclined  $23\frac{1}{2}$  degrees toward the plane of its orbit. If its axis were perpendicular to the plane of its orbit



there would be no change of seasons. The sun would shine from pole to pole, and the days would be of uniform length through the year all over the globe. The heat received by any part of the globe would only vary in accordance with the varying distance from the earth to the sun. Alternations of heat and cold would largely disappear, summer and winter and seed time and harvest would cease, and the productiveness of the earth would be greatly diminished, perhaps almost destroyed. On the other hand, if the axis lay in the plane of the earth's orbit, and should point always in the same direction as it now does, the changes of the seasons would be those which now exist, but vastly exaggerated. The sun would be vertical in turn over every part of the earth, and his rays, pouring down day after day with no intervening night on the northern half of the globe, would cause a degree of heat far more intense than anything which the earth now knows. Then for six months his scorching beams would pour upon the southern half of the globe, and the other hemisphere would be plunged in intense cold and black darkness. No part of the earth would be free from these extreme vicissitudes of heat and cold, and no life, animal or vegetable, that now exists, could endure the changes.

#### GENERAL FRANCIS MARION.

POMEROY, W. T.  
Give a brief sketch of General Francis Marion.  
FRED W. CLARK.

*Answer.*—Francis Marion was born near Georgetown, S. C., in 1732, of a Huguenot family which had emigrated from France about 1690. He received little education, owing to the lack of opportunities in his district. When quite a young man he joined the volunteer army against the Indians. On the outbreak of the Revolutionary war he was elected to the Provincial Congress of South Carolina, and when troops were organized was made a Captain in Colonel Moultrie's regiment, and took part in the capture of the British Fort Johnson. Early in 1777 Marion was sent with 600 men to the defense of Georgia, where he served until the British had taken possession of the State. He then held Fort Moultrie for over a year. During the siege of Charleston he broke his leg, and when recovered from this disability he raised the brigade with which he became so famous. The members of this force were inexperienced countrymen and boys, but he trained them well in the art of war. In 1780 he was made a Brigadier General. His principal camp was on Swan's Island, though it is said he had retreats in nearly every swamp in the country. He lived on the simplest fare and accustomed himself to the greatest hardships, and trained his men in like self-denial and fortitude. His brigade was of the greatest assistance to the colonial army in obtaining information, and also in breaking communications and harassing the enemy in all his movements. The British generals several times sent picked bands to capture him, but were always baffled by his superior generalship and rapidity of movement. He also took an important part in various battles, bringing his

men to the aid of the regular troops whenever needed. When the British army had evacuated Charleston, he disbanded his brigade and returned to the occupation of a farmer almost in poverty. He was subsequently elected to the State Senate. In 1784 he was made commandant of Fort Johnson, and in 1790 was a member of the convention for framing the State constitution. He died in 1795 and was buried at Belle Isle in the parish of St. John's, S. C.

#### THE BOOK OF JASHER.

JEFFERSON, Ohio.  
In a list of the valuable books in the library of General Logan "Jasher" is mentioned, with the statement that this was one of the three copies of that "renowned work" in America. What is the book and who wrote it?  
DOREX.

*Answer.*—The name is also written and more commonly Jasher. This work is one of the curious forgeries of literature. Of the original Jewish work of this name nothing is known except through the two allusions to it in the Bible. In Joshua x. 13 is a poetic apostrophe to the sun and moon bidding them stand still, said to be taken from the book of Jasher, and 2 Samuel i. 19-27 is another quotation, the elegy of David on Saul and Jonathan. The nature and author of the book are unknown, but it has been conjectured that it might have been a collection of national songs. There have been two rabbinical works written with the same title, one a treatise on Jewish law and the other a book on ethics, both printed during the sixteenth century. A mediæval work in Hebrew by the same name arrogates a claim to be founded on the original mysterious work. Tradition asserts that it was discovered at the time of the destruction of Jerusalem in the possession of an old man who had hidden himself; that it was brought thence to Spain and preserved at Seville. It was first printed at Naples, afterward at Venice (1625), at Cracow (1628), and at Prague (1668). It contained the histories of the Pentateuch, Joshua, and Judges, intermixed with legends taken from the Talmud and various other sources. A German translation with additions was published at Frankfurt in 1674, and an English translation, under the direction of M. M. Noah, at New York in 1840. In 1751 Jacob Ilive, a type founder in Bristol, England, published a forgery, entitled "The Book of Jasher," professedly translated from the Hebrew by Alcuin, with a fictitious attestation by Wickliffe. The fraud was clumsy enough, but it was reprinted at Bristol in 1827, and again in London in 1833. The book in General Logan's library was probably a copy of Ilive's work.

#### THE FORMATION OF ICE.

ETNA, Mo.  
Where does water begin to freeze in still lakes and streams, at the bottom or on the surface?  
J. H. WHITTEN.

*Answer.*—Ice is specifically lighter than water just about to freeze, and therefore floats in it. This is one reason why the formation of ice usually begins at the surface of the water. Another is the peculiar law of its expansion. The general law is that cold induces contraction. This law holds good with water only to a certain point. When it has cooled down to within 7.4

degrees of freezing it ceases to contract, as before, with increase of cold, and begins to expand till it freezes. This expanding would naturally cause the coldest parts of the water to rise to the surface. The formation of ground ice, or anchor ice, as it is called, at the bottom of streams under certain circumstances, is only an apparent exception to the rule above given. The whole body of water is at the same time cooled below the freezing point, and the substances at the bottom, the rocks and stones of the river bed, serve as points of congelation, or crystallization for the water. Ground ice may be the lowest stratum of the once completely frozen mass of water, retained at the bottom by natural cohesion to the rough substances of the river bed, during the thawing and melting of the ice on the surface, or it may even be formed under favorable conditions beneath briskly flowing water, probably by the action of eddies, which draw the surface water down through the warmer but denser liquid, thus cooling the rocks and stones at the bottom. It usually gathers on a clear, cold night, when the surface of the water is not frozen, though its temperature is at the freezing point, and that of the air is still lower. The layers of ground ice are sometimes formed three inches thick, but it is noteworthy that as soon as they are detached from the bodies which hold them they immediately rise to the surface.

#### MODERN TUNNELING.

Describe how railroad tunnels are constructed.  
ANAMOSA, IOWA.  
VULCAN.

*Answer.*—Modern tunneling may be classed under three heads: tunneling through soft ground or loose rock, tunneling through solid rock without machinery, and tunneling through solid rock with machinery. Under the head of soft ground, the miner includes all material that, if tunneled through, requires a temporary timber arch to hold it in place till the permanent arch of brick or stone is built. The first step in driving a tunnel through such ground is to open out a small bottom heading, or adit, for the purpose of draining the ground above and also getting a passageway for carrying away the excavated earth and bringing the materials for arching. The enlarging and arching of a tunnel is generally done in sections. Some fifteen feet of an advanced heading are excavated at the top of the proposed work. Heavy longitudinal bars of timber are then put in, and the miners gradually work down, putting in a temporary arch of timber as they go. When this has been done and foundations have been dug along the sides, the masons take the place of the miners, and run up an arch under the timber, which is withdrawn during the excavation of the next section, and the spaces left securely filled in with stone. In digging large tunnels, shafts or slopes are often sunk, so that the work can be attacked from several points at once. In tunneling through loose rock much the same plan is followed as in the work through soft ground. In driving a tunnel through solid rock an advanced heading is first driven at bottom or top. Holes are then drilled in the sides or in front of this and the rock loosened by the use of blasting powder. An inside archway

is then built, usually of boards. Tunneling by machinery is done by the use of drills driven by compressed air or water power. The rate of driving in tunnel work has been greatly increased by the use of machinery, but it is thought that in making short tunnels hand labor is still the more economical method. Machine drills were invented about the time that the Mont Cenis tunnel was begun, being in fact born of the necessity of some more rapid method of executing that enormous work.

#### COLONIAL AND CONTINENTAL CONGRESSES.

CHEYENNE, KAN.  
The first Colonial Congress met in 1765, the first Continental Congress in 1774. Did the Colonial Congress have annual sessions till the Continental met, and how long after 1774 did the Continental Congress hold yearly meetings? Tell something about the two bodies.  
A. PHARO.

*Answer.*—There were two Colonial Congresses previous to 1765. The first was called by Governor Leisler, of the colony of New York, in May, 1690, during King William's war, to consider the question of a united defense of the colonies. This body decided upon the two unfortunate expeditions, one by land against Montreal, and the other by sea against Quebec, both of which came to a disastrous end some months later. Another convention of delegates from the colonial assemblies met at Albany, N. Y., June 19, 1754, to strengthen the alliance of the colonies. Benjamin Franklin was a member of this convention, and was appointed on a committee to draw up a plan for colonial confederation. The plan of this committee, which was almost wholly the work of Franklin, was adopted by the convention, but the English Government refused to approve it because it gave too much liberty to the colonies, while the colonial assemblies rejected it because it gave too much power to the King. The Colonial Congress of 1765 was proposed by Massachusetts and met at New York Oct. 7, 1765. Twenty-seven delegates were present, representing nine of the colonies. They drew up a declaration of rights, a petition to the King, and a memorial to both houses of Parliament. No steps were taken, because at that time none were contemplated, toward forcible resistance. The petition of this congress was offered in the English House of Commons Jan. 27, 1766. It was objected to for two reasons, 1. as the act of an unconstitutional assembly, and, 2. because it denied the right of Parliament to tax the colonies. After a brief debate the order of the day was voted, and thus the first request of the united colonies for a hearing was summarily shelved. No further attempt at united action was made by the colonies until the calling of the Continental Congress. This was first suggested by Benjamin Franklin, in a letter of July 7, 1773, addressed to the Massachusetts Colonial Assembly. The Virginia Assembly in May, 1774, on hearing of the passage of the Boston port bill, passed a resolution advising the calling of a congress of delegates from the colonies. June 7 the Massachusetts Legislature named the time of meeting and appointed delegates. Other colonies did likewise and the congress met at Philadelphia Sept. 5, 1774. The only colony unrepresented at the First Continental Congress was Georgia, though it took part in all



subsequent congresses. At the time this first congress met, neither revolution nor rebellion was thought of, and its action was limited to a declaration of the rights and wrongs of the colonies, a recommendation to the colonies to refuse to trade with Great Britain or the West Indies, if their wrongs were not righted, and the preparation of addresses to the King, to the British people, to the people of the colonies, and to Canada. A resolution, however, was passed declaring that all the other colonies ought to support the people of Massachusetts in opposing the carrying out of the port bill and other objectionable measures by force. This congress, on disbanding, recommended the immediate selection of delegates to a second congress, to be held at Philadelphia May 10, 1775. Before this body met, the "shots fired at Lexington had crystalized thirteen of the King's American colonies into a separate nation." This congress, though forced by exigent circumstances to assume national powers, did so very cautiously, and it was not until the King had proclaimed the American people out of his protection and had declared war against them, that the pressure of popular sentiment impelled congress to assume publicly the functions of a national assembly and declare the independence of the colonies. The Second Continental Congress remained in session from May 10, 1775, to Dec. 12, 1776. The appointment of delegates to the first two Continental Congresses was generally by popular conventions, though in some instances by State assemblies. After this the power was assumed or granted, as by the articles of confederation, to the State Legislatures. The First and Second Continental congresses were distinguished by their numbers, but after the first meeting of the Second Congress the body was generally known as the Continental Congress only, as it was difficult to specify distinctive Congresses. The State Legislatures chose the delegates for varying times, and recalled them at pleasure, so that Congress became a body, theoretically in perpetual session, and subject to perpetual change, but with no distinct period of renewal. We give in the following table the sessions of the Continental Congress, from the time of its first organization to the date when it died to give place to the First Federal Congress:

SESSION.	Duration.	Place.
I.....	Sept. 5, 1774—Oct. 26, 1774	Philadelphia.
II.....	May 10, 1775—Dec. 12, 1776	Philadelphia.
III.....	Dec. 20, 1776—March 4, 1777	Baltimore, Md.
IV.....	Mar. 4, 1777—Sept. 18, 1777	Philadelphia.
V.....	Sept. 27, 1777	Lancaster, Pa.
VI.....	Sept. 30, 1777—June 27, 1778	York, Pa.
VII.....	July 2, 1778—June 21, 1783	Philadelphia.
VIII.....	June 30, 1783—Nov. 4, 1783	Princeton, N. J.
IX.....	Nov. 26, 1783—June 3, 1784	Annapolis, Md.
X.....	Nov. 1, 1784—Dec. 24, 1784	Trenton, N. J.
XI.....	Jan. 11, 1785—Nov. 4, 1785	New York City.
XII.....	Nov. 7, 1785—Nov. 3, 1786	New York City.
XIII.....	Nov. 8, 1786—Oct. 30, 1787	New York City.
XIV.....	Nov. 5, 1787—March 2, 1789	New York City.

The reader will find in Our Curiosity Shop book for 1886 a list of the officials who served as Presidents of the Congress during the various sessions above mentioned. The Continental Congress after 1777 was not a body possessing much influence, and under the articles of con-

federation, the powers allotted to it were so slight, and it was so wholly deprived of any means of enforcing its feeble authority, that its meager influence with the people is no cause for surprise. Usually not more than one-third of its appointed members were in attendance. Dec. 20, 1783, Congress informed the States that but twenty delegates, representing seven States, were present, and that at least two more States must be represented to ratify the treaty of peace with Great Britain. This was at last ratified Jan. 14, 1784, twenty-three delegates, representing nine States, being present. In July, 1788, as nine States had ratified the Constitution, Congress made arrangements for its formal inauguration and the meeting of the Senators and Representatives to be elected under it at New York, March 4, 1789. After Jan. 1, 1789, Congress was kept in formal existence by the presence of two or three delegates, who adjourned from day to day. March 2 it quietly dissolved and went out of existence without public note or observation. "While all eyes," says the historian Hildreth, "were turned—some with doubt and some with apprehension, but the greater part with hope and confidence—toward the ample authority vested in the new government now about to be organized, not one respectful word seems to have been uttered, not a single reverential regret to have been dropped over the fallen greatness of the exhausted and expiring Continental Congress."

#### CHICAGO LIGHT ARTILLERY.

BISMARCK, D. T.  
Please give some account of the Chicago Light Artillery, its commanders, date of enrolling and discharge and brief history. W. A. FONDA.

Answer—As early as May, 1854, a company called the Chicago Light Artillery was organized in this city by James Smith, who had been first lieutenant of a company called "Chicago Hussars and Light Artillery," a company which had been formed for a brief term in 1847. In the spring of 1861 Colonel Ezra Taylor resigned the command of the Sixtieth Illinois to recruit a battery of artillery in Chicago. He raised a battery which was known as Battery B, Chicago Light Artillery, and reorganized Captain Smith's company, which took the name of Battery A, Chicago Light Artillery. April 21, Battery A, under command of Captain Smith, was sent to Cairo, where it remained several months. While here Captain Smith was obliged to resign on account of ill-health, and Lieutenant C. M. Willard was put in command. In September the battery, with General Grant's force, went to Paducah, remaining there until February, 1862, when it took part in the expedition against Forts Henry and Donelson. Just before this movement, by promotion of Captain Willard, the command devolved upon Lieutenant P. P. Wood. It was also at Shiloh, where it took a prominent part in the battle, and soon after this was sent on to Memphis and permanently attached to the forces of General Sherman. It was at the battles of Chickasaw Bluff and Arkansas Post, and took part in the siege of Vicksburg, and was in the battles before Chattanooga in November following. In May, 1864, Captain Wood was obliged

to resign on account of illness, and Lieutenant J. W. Rumsey was put in command. Lieutenant Rumsey was severely wounded at the battle of Resaca, July 12, 1864. The veterans of Battery A and those of Battery B were consolidated in one company, under the designation of Battery A, First Illinois Light Artillery. To trace the history of this second battery, we go back to the time when it left Chicago for Cairo, under Commander Ezra Taylor, June 1, 1861. It was at the battle of Belmont: also in the advance on Forts Henry and Donelson. By the promotion of Captain Taylor, command devolved April 1, 1862, on Captain S. E. Barrett. The battery was present and took active part in the fight at Shiloh. It was subsequently attached to General Morgan L. Smith's brigade, and in December was sent to take part in Sherman's attack on the defenses north of Vicksburg. It took part in all engagements with Battery A from this time until the consolidation of the companies. The new battery was at first commanded by Captain S. S. Smith, but this officer having been captured before Atlanta, command was given to Lieutenant E. P. Wilcox. When the army was reorganized before Atlanta the battery was assigned to the army of General Thomas, and participated in the battles before Nashville in December, 1864. These were its last engagements. It was returned to Chicago July 5, 1865, paid off, and discharged.

#### STAKED PLAIN OF TEXAS.

What and where are the staked plains of Texas, and why are they so called?

MORRISON, Ill.

L. E. LEWIS.

**Answer.**—The staked plain of Texas—Llano Estacado—forms part of the Western plateau of the State. The name is given it from the great number of bare yucca stems seen there resembling stakes. This plain extends from the headwaters of the Colorado, Brazos, and Red Rivers on the east, to the Red Pecos in New Mexico on the west, and from the valley of the Canadian on the north to the Pecos on the south. Its surface is gently undulating, but owing to lack of water there is almost a total absence of vegetation. The yucca is the only plant that grows there, and this but scantily; there are no trees, and in the summer the feeble crop of grass dries up. This is undoubtedly true of a very large part of the territory called the "staked plain," but we are assured that other parts have been settled and irrigated, and are becoming quite fertile. The general level of the plain is from 3,000 to 4,000 feet above the sea.

#### HISTORY OF SOCIALISM.

Give a brief history of socialism and tell something of its doctrines.

ASPEN, Col.

G. F. MOORE.

**Answer.**—Socialism is, briefly defined, the doctrine that society ought to be organized on more equitable principles. Its principal divisions are communism and co-operation, that is, the theory that combination of effort and a sharing of profits by employers and employed would conduce to the highest advantage of society, and the more extreme theory that social reform can only be based upon a community of goods. The history of socialism may be said to run parallel with that of property. Wherever wealth has increased

it has rendered oppressive the power of individual possessors, and thus called into existence communistic doctrines. We know from Plato's "Republic" that even four centuries before the Christian era the inequalities of property had brought socialistic schemes into existence. Communistic doctrines, more or less upheld by religious views, existed among the ancient Hindoos and Egyptians. Among the earliest attempts at socialistic life was that of the Jewish sect of the Essenes, who had established themselves on the shore of the Dead Sea about two centuries before Christ. Little is known of their actual teachings, except that they held property in common, and discountenanced marriage, without really prohibiting it. The Carpocratians, an early Christian sect, which continued to exist till the middle of the sixth century, also practiced community of goods and of women. Among the monastic orders of the middle ages there was more or less communism. There was a society called "Brethren and Clerks of the Common Life," founded in the Netherlands about 1378, whose members were chiefly priests. Another community of that century was the Adamites. These held that the attire of Adam before the fall was the most desirable for men, and walked about naked. They also advocated gross immoralities, and were finally arrested, imprisoned, and thus quieted. There is no doubt that the "peasants' war" in Germany was brought about by socialistic agitation. In the doctrines of the various fanatical sects that sprang into existence after the Reformation there is evident a spirit of hostility to the rich, and a desire to realize a more just social adjustment of affairs. About the same period works began to appear which, like Plato's "Republic," depicted the social state as it might be. Among these were Sir Thomas Moore's "Utopia" (1516) and Campanella's "Civitas Solis" (1623). Similar schemes were outlined by Hall in his "Mundus Alter," by Fenelon, by Morely, by Defoe in his "Essay on Projects," Bacon in his "New Atlantis," Harrington in "Oceana," and John Beller in a scheme for a "College of Industry." All these publications were issued during the seventeenth century. Socialism ran riot in France after the Revolution, and various schemes were on foot for securing to all men an equal share in the property, prosperity, and happiness of the race. Such were the plans of Babeuf, Saint-Simon and Fourier. Babeuf taught the communism of goods, pure and simple, and for doctrines supposed to be traitorous to the state he perished on the scaffold. His doctrines seemed to have perished with him, but forty years later they were revived by Buonarrotti, and extensively propagated in France. The extreme radical character of these opinions—advocating the division of all property, the abrogation of marriage, and the destruction of all towns and cities as the fostering hot-beds of oppression—brought them into great disfavor with the authorities, and they have only been disseminated by means of a secret society, which has probably many members, but which has been generally able to conceal its existence



from knowledge of the government, or cloak it under an innocent name. Saint-Simon originated what he called a new Christianity, which was to reconstruct the religion and politics of the world, but he did not live to embody his ideas in a system, and left them in the form of a vague sentiment, to be taught by his disciples, but to accomplish little toward the regeneration of the world. Fourier, who was more successful in systematizing his schemes, by the vigorous eloquence with which he advocated them, secured many followers in France, England, and the United States. A full account of "the dream of Fourier," and of one of the best-known attempts to realize that dream, to-wit, that at Brook Farm, will be found in *Our Curiosity Shop* book for 1886. Proudhon was another French socialist, of very extreme views. One of his principal objects was to devise some scheme by which the profits of capital and the wages of labor should be proportioned to each other. He founded a "bank of the people," which was to be run on credit instead of cash, but it was closed by order of the government. Louis Blanc was another socialistic teacher, whose theory was that everything should be done for the people by the government. His ideas obtained quite a wide following. Modern socialism in England may be said to have originated with Robert Owen, who began his teaching about the beginning of this century. His theory was that man was made entirely by his circumstances, and to make him perfectly happy and perfectly good, nothing was needed but to make his external relations favorable to happiness and virtue. He attempted the organization of various communities in Scotland and in this country, but they all proved short-lived, and ended in failure. His scheme for co-operative societies and stores, however, survived, and many organizations of this kind have been carried on very successfully in Great Britain. German socialism may be said to be a growth of this century. Its principal leaders have been Dr. Karl Marx, Lassalle, and Schultz-Delitzsch, though these teachers have by no means agreed in their doctrines. The movements of German socialists and similar societies in England led to the formation about 1863, of the International Association, a combination of trades unions, which, like the Knights of Labor order in this country, has supported the various strikes of the laborers in the different countries of Europe. Socialism in the United States for many years only took the form of communistic societies which were usually, though not always, based upon a religious belief of some kind. Of these the Shakers were established in the Northern States about 1780 and in the West some thirty years later, the Rappites were established in 1805, the Zoarites in 1817, the Ebenezer or Amana communists, in 1844, the Bethel Community in the same year, the Oneida Perfectionists in 1848, the Icarians in 1849, and the Aurora Community in 1852. As to the opinions of these societies, several of which are now quite defunct, it may be said that the Icarians definitely rejected Christianity, though they built an entire creed on brotherly love, the distinctive

foundation principle of Christ's teachings, and the Bethel and Aurora Communities claimed to take the golden rule as their only creed. The Shakers and Rappites adopted celibacy as a principle; the Oneida Community advocated and practiced free love; all the other communities held the family relation in due honor. Of these societies only the Oneida Perfectionists originated purely in this country. The doctrines of the Shakers were first taught in England; the Icarian Society was transplanted here from France, and all the others from Germany. It will be seen that this socialism, which confined itself to communities, where peculiar doctrines could be tried by mutual consent, is a very different thing from modern socialism, which endeavors to force its ideas on society by violent means, and to punish all differences of creed with dynamite bombs, the torch, or the murderous knife. This later form of aggressive belief has taken its character, apparently, from the nihilism of Eastern Europe, which is simply the gospel of destruction.

#### THE UNITED STATES NAVY.

CAN you give facts and figures showing the exact condition of our navy, what ships we have, and of what sort? H. N. NORTON.

Answer.—The following account of the present state of the United States Navy is condensed from the report of Mr. Wilson, Chief Constructor of the Navy Department, which was published in September, 1886. He gave the present fighting force of the navy—leaving out the Tennessee, which was not expected to last over six months or a year—as seven second-rate vessels, fourteen third-rate, and three fourth-rates. Of the guns carried by these vessels, few have a range of over two miles. The navy list, he says, contains a dozen more monitors, none of which are fit for active service; and new iron-clads to cost some twenty millions are to be constructed, but it will take four years at least to complete them, and in the meantime our navy must rank below that of any first-rate power. Indeed, there are three South American, two Asiatic, and fifteen or sixteen European powers, that now outrank us in naval strength.

Of the steel cruisers, Dolphin, 1,500 tons displacement, is already completed and receiving her armament. Atlanta, 3,000 tons, is on her trial trip and her armament is being tested, while Boston, 3,000 tons, and Chicago, 4,500, are well advanced in construction. Five of the armored vessels are of the double-turret monitor class, each designed to carry four heavy high-powered guns, throwing 500-pound shells, with a possible range of ten miles. These ships were planned ten years ago. Doubtless, if planned to-day some changes would be made, but they are nevertheless spoken of by Commodore Wilson in this last annual report as the best type of coast and harbor defense vessels in existence. Though not designed for cruising, they can in emergencies be sent abroad, their sea-worthiness having been well tested in the past. Congress has now supplied the means of furnishing these ships, and the work is progressing rapidly. Miantonomoh, 3,815 tons, will be ready for service this

year; Puritan, 6,000 tons, has her engines in place, and is nearly ready for her armor; while Terror, Amphrite, and Monadnock—3,815 tons each—are now receiving their machinery. The other two armored ships have not yet entered upon their first stage of existence, their construction having only been authorized by Congress at the end of its last session. They are to be of 6,000 tons displacement, to have double bottoms, engines designed to drive them at a speed of sixteen knots an hour, and complete torpedo outfits and armaments of the most effective kind, and are to cost not more than \$2,000,000 each. In the mere matter of displacement these ships will exceed by nearly one-fourth the best and largest of our present naval vessels, while in speed and effectiveness they are intended to compare favorably with the better class of European cruising war ships. The dynamite-gun cruiser will be a novelty, comparable probably to nothing now in existence. The Secretary of the Navy is required to make a contract with its inventors for its construction, and the department will have little or nothing to do with the work beyond passing judgment upon the plans in advance and the result of its completion. The conditions imposed by the act of Congress contemplate the construction of a vessel 130 feet long, proportionately very narrow, and of very light draft, with exceeding powerful engines guaranteed to be able to produce a speed of twenty knots. In brief, the plans of this craft are understood to look to the placing of the machinery and other ordinary appliances of the ship toward the bow or stern, leaving the region amidships for the magazines and pneumatic guns, the latter being fixed in position and having a high elevation. The dynamite missiles will be thrown like bombs from an ordinary mortar. With all these vessels afloat the United States as a naval power will out rank Brazil, Chili, the Argentine Republic, China, Japan, Greece, Norway, Portugal, and Sweden, and will be abreast of Turkey, Spain, Holland, and Denmark. It will still be outranked by England, France, Germany, Austria, Italy, and Russia.

#### LOUIS AGASSIZ.

Give a sketch of the eminent scientist, Professor Agassiz.

CHICAGO.  
H. S. B.

*Answer.*—Louis Jean Rudolph Agassiz was born in Switzerland in 1807. He received a scientific education, and during his college vacations visited many parts of Europe to study fossil and fresh-water fishes. He was appointed professor of zoology at Neuchâtel, Switzerland, about 1833. He published a work on fresh-water fishes in 1839, and one on fossil fishes in five volumes was finished in 1842, both of which took high rank as scientific publications, and later he issued two works on the subject of glaciers, in which he advanced some new and striking theories. In 1846 Professor Agassiz visited the United States on a scientific expedition, and during the following year was induced to accept the professorship of zoology and geology in Harvard University, Cambridge. He continued his original investigations, and in con-

nection with his professional work, he delivered several courses of lectures in Boston. In 1863 he went to Brazil with a corps of assistants, and made a scientific exploration of the lower Amazon and its tributaries. He published an account of this expedition, in a volume entitled "Journey in Brazil." His other important works were "Outlines of Comparative Physiology," "Principles of Zoology," and "Contributions to the Natural History of the United States." This latter work was to be in ten volumes, but the author lived to complete but four volumes of the series. He died in Cambridge Dec. 14, 1873. Professor Agassiz was one of the soundest scientific thinkers, and clearest scientific writers of the century.

#### GOVERNORS OF MINNESOTA.

Give the names of the State Governors of Minnesota, and dates of their terms of office.

ST. CHARLES, Minn.

MINNIE JOHNSON.

*Answer.*—The list of the Governors of Minnesota since its organization as a State is as follows:

Henry H. Sibley.....	1858-60
Alexander Ramsey.....	1860-64
Stephen Miller.....	1864-66
William R. Marshall.....	1866-70
Horace Austin.....	1870-74
Cushman K. Davis.....	1874-76
John S. Pillsbury.....	1876-82
Lucius L. Hubbard.....	1882-84

#### THE FULMINATES.

PARK, Mich.

How is anti-corrosive fulminate manufactured?

A. E. P.

*Answer.*—The fulminates, as the term is known to chemistry, are quite numerous, and scattered through several distinct classes of bodies. Among the most powerful and dangerous of them are the chloride and iodide of nitrogen and the fulminates of silver and mercury. They should never be made except under the direction of some one acquainted with their dangerous nature, and for immediate use. Of course the fulminates of commerce are made in quantity and stored, but they are always handled with especial care by those using them, and in this way kept from doing injury. The fulminate of antimony is made by mixing tartar emetic with lampblack or charcoal powder. The resultant powder explodes violently on being brought in contact with water. Moisture also causes the explosion of the fulminate of bismuth, formed by the union of bismuth, cream of tartar and nitre. The fulminate of mercury is one of the most commonly used of these compounds. It is made by the union of nitric acid with mercury under the influence of heat, this being then poured into alcohol and allowed to crystallize. The result is small, brownish-gray crystals, which explode violently by both percussion and friction, but when kindled in the open air only burn rapidly, with an almost noiseless flash. This compound must be made in small quantities, as when kept in large parcels there is danger of its spontaneous explosion. The fulminates of gold and silver are also terribly dangerous compounds. The latter can be made by dissolving the oxide or chloride of silver in concentrated ammonia, or by the action of alcohol on grain silver dissolved



in nitric acid. When made, the fulminate of silver is a white powder, and it is one of the most dangerous substances that can be made. It explodes with unparalleled violence by friction or percussion, or by the application of heat, or when touched with strong sulphuric acid, a great volume of gas being instantaneously liberated. Strange to say, though its explosive tendency is so great that it can hardly be made, handled, or kept without peril, yet if cautiously mixed with oxide of copper in certain proportions, it may be safely burned in a tube to determine its composition, as other organic substances are tested. The fulminate of gold is made by combining peroxide of gold with ammonia. The result is a terribly explosive olive-colored powder. With the least friction or any increase of heat this explodes violently, and therefore can not be made but in quantities of a few grains at a time, as it is in constant danger, if kept, of spontaneous explosion. Its fulminating property, however, may be quite destroyed by boiling it in pearlash lye or weak oil of vitriol. Fortunately, the above described substances are very expensive, and therefore are seldom made except for use in chemical experiments.

## ELIZABETH BARRETT BROWNING.

Give brief sketch of the life and works of Elizabeth Barrett Browning.

CLARESVILLE, Mich.  
READER.

*Answer.*—Elizabeth Barrett was born in Herefordshire, England, in 1805. She was educated with great care and thoroughness, and early manifested an ability for the comprehension of most difficult studies. She became very proficient in languages, both ancient and modern, and early began to contribute to periodical literature. Her first volume of poems was published in 1826, but she recognized these early productions as so imperfect when her genius had fully ripened that none of them were included in her later works. In 1833 she published a translation of "Prometheus Bound," a Greek poem, and in 1838 appeared "Seraphim and Other Poems," which was an attempt, quite striking, but not wholly successful, to put an English poem in the form of a Greek tragedy. About this time Miss Barrett was affected with bleeding at the lungs, and went to Switzerland for her health. While there, a brother with whom she was traveling was suddenly drowned, and the shock of this bereavement quite broke down the young poetess. For several years she was an invalid, living in the closest seclusion. She did not leave her room, and saw no one but members of her family and a very few of her intimate friends. While thus secluded she wrote a series of articles on the Greek Christian poets, which were published in the London *Athenaeum*. In 1844 the first collected edition of her poems was issued. This contained a number of new poems, among them "Lady Geraldine's Courtship," one of her most beautiful productions. It contained a graceful compliment to Mr. Browning, whose works she much admired, though she had never met their writer. The poet called to express in person his acknowledgments, and the acquaintance thus formed ripened into intimacy and

finally into love. Her health improved greatly, and she became the wife of Robert Browning in the autumn of 1846. After their marriage, Mr. and Mrs. Browning resided chiefly in Italy. In 1857 appeared "Casa Guidi Windows," a long poem whose theme was the struggle made by the Tuscans for freedom in 1849. In 1856, her longest poem, "Aurora Leigh," a narrative in verse, appeared. Her last volume, "Poems Before the Congress," was published in 1860. June 29, 1861, she died at Florence, Italy. It may be said of Mrs. Browning's poetry, that it was marked not only with feeling and pathos, but also with the most generous and noble sentiments. Perhaps she wrote too readily, many of her poems could be improved by being made shorter. But no writer ever exerted a better and happier influence upon her time. She holds unquestionably the highest place among female poets.

## ORDER NO. 11.

MANHATTAN, Kan.  
Give the facts concerning the famous "Order No. 11" issued by General Grant when in Mississippi, expelling all Jews from the army lines. H. T. CRISTY.

*Answer.*—The following are the facts concerning the order mentioned, taken from Vol. XVII. of the Official Records of the armies, recently published. Following is a copy of the order:

"HEADQUARTERS 13TH A. C. DEPARTMENT OF THE TENNESSEE, HOLLY SPRINGS, Dec. 17, 1862.  
—General Orders, No. 11: The Jews, as a class violating every regulation of trade established by the Treasury Department, and also department orders, are hereby expelled from the department within twenty-four hours from the receipt of this order.

"Post commanders will see that all of this class of people be furnished passes and required to leave, and any one returning after such notification will be arrested and held in confinement until an opportunity occurs of sending them out as prisoners, unless furnished with permit from headquarters. No passes will be given these people to visit headquarters for the purpose of making personal application for trade permits.

"By order of Major General U. S. Grant.

"JOHN A. RAWLINS,

"Assistant Adjutant General."

Previous to the date of this order General Grant had commanded the officers at Jackson and Columbus to refuse permits to Jews to come south of these points, and to give orders to conductors on the railroads to permit no Jews to travel southward from any point. The reasons for his adoption of this apparently arbitrary and unjust policy the General gives in a letter of the same date as Order No. 11, addressed to the Hon. C. P. Wolcott, Assistant Secretary of War. In this he says: "I have long since believed that in spite of all the vigilance that can be infused into post commanders, the specific regulations of the Treasury Department have been violated, and that mostly by Jews and other unprincipled traders. So well satisfied have I been of this that I have instructed the commanding officer at Columbus to refuse all permits to Jews

to come South, and I have frequently had them expelled from the department; but they come in with their carpet-sacks, in spite of all that can be done to prevent it. The Jews seem to be a privileged class that can travel anywhere. They will land at any wood-yard on the river and make their way through the country. If not permitted to buy cotton themselves, they will act as agents for some one else, who will be at a military post with a Treasury permit to receive cotton and pay for it in Treasury notes which the Jew will buy up at an agreed rate, paying in gold. There is but one way that I know of to reach the case; that is, for government to buy all the cotton at a fixed rate and send it to Cairo, St. Louis or some other point to be sold. Then all traders (they are a curse to the army) might be expelled." As Order No. 11, however, made no distinction between the Jews engaged in an honest and legitimate business and those who were mere trading tramps, eager to violate any and all army regulations in the hope of gaining a few dollars, there was a very earnest protest against it, and Hebrew citizens of Paducah, Ky., sent a letter of expostulation to President Lincoln, requesting his "effectual and immediate interposition" in the matter. General Halleck, therefore, wrote to General Grant Jan. 4, 1863, demanding the immediate revocation of the obnoxious order, which was carried out Jan. 7 by circular from headquarters.

#### THE ELECTRIC LIGHT.

Give history and description of electric lights, the different kinds, and how they work. OTTUMWA, IOWA. O. MORFITT.

*Answer.*—Setting aside natural phenomena, as the lightning and St. Elmo's fire, and all mere experiments with the electric spark, the first inventor of the electric light was Sir Humphrey Davy, who in the early part of the century produced the arc light with a battery of 2,000 cells. The mode of producing this light is as follows: When the terminal wires of an electric battery are brought together and then separated slightly an intense, bright light between them results, and this, because of its curved form, is called the electric arc. This light in temperature as well as brightness exceeds all other artificial sources of heat, by its means the hardest substances, even the diamond, being entirely consumed. The wires of the battery in this light melt and drop off in globules, but it was found that hard carbon points on the wires would prevent this, as well as increase the intensity of the light. Davy used pieces of charcoal. Foucault, in his experiments in 1844, used carbon from the retorts of gas works, which is much harder. Foucault's improvement led to the first practical use of the electric light. It was used to illuminate the Place de la Concorde, in Paris, being placed on the knee of one of the statues there, and amazing all beholders with its brilliant power. The carbon points, though not destroyed as rapidly as wire, yet of course must waste in the consuming heat of the light. In time the distance between them is increased until the light is interrupted, and they must be brought together again to renew the illumination. Thomas Wright, of

London, invented the first apparatus for moving the points automatically toward each other, a feature which now belongs to several forms of electric lighting. As it has been found that the positive carbon wastes more rapidly than the negative, that point is made to move over a wider space than the other in the same interval of time.

In 1855 Jules Duboscq's electric lamp—thus far the most perfect of the kind—was shown at the Paris Exhibition, and Professor Tyndall, of England, adopted it for the illustration of his lectures on light and colors. In 1858 the works of the new Westminster bridge, London, were illuminated by Watson's electric light, and the following year the magneto-electric light, invented by Professor Holmes, was successfully tried at the lighthouse at Dover. In 1861 the French Government provided for the illumination of eight coast lighthouses by the electric light. But, though improvements were made in the invention during the fifteen years following, little was accomplished toward practical electric lighting until the invention of Jablochhoff's candle. Paul Jablochhoff was a Russian, who for his scientific knowledge and skill had been appointed director of telegraph lines between Moscow and Kursk. He resigned this post in 1875, desiring to devote his time wholly to scientific study. He intended to visit the Centennial Exhibition in this country in 1876, but on his way hither stopped in Paris, where a noted chemist induced him to remain by placing a large laboratory at his disposal. Here a few months later he produced the electric candle, whose discovery made a great sensation. This consisted of two carbons placed side by side, separated and encased in an insulating and fusible substance. As the carbons wasted the fusible substance was also consumed. The light given by this candle was soft and steady, and a large number of them speedily came into use in Europe. It was quite overshadowed in importance, however, by the incandescent lamp, which was first invented about 1870. The different kinds of electric lights now in use may be divided into five groups, thus: 1. Glow lamps or incandescent lamps, in which the light is produced by a bad conductor in an uninterrupted circuit, the conductor itself being not directly consumed. 2. Mixed or semi-incandescent lamps, in which the light is produced at the place of contact between two conductors, one of them being consumed more or less rapidly. 3. Regulated lamps, in which the light is formed by the voltaic arc, and the distance of the carbons is continually regulated by clockwork or other means. 4. Electric candles, having the carbons parallel, as above described. In each of these groups a series of different lamps have been invented, differing somewhat in details of construction. Thus we have, in the incandescent lamps, the Swan lamp, the Maxim lamp, the Edison lamp, the Siemens lamp, and others. We may briefly describe the Edison as a type of the class. In this bamboo fiber is used for the carbon filament, and this is attached to platinum wire. By means of machinery the bamboo is divided into small fibers, and pressed in U-shaped moulds, then



put into ovens, where they are allowed to become carbonized. They are then attached to the platinum wire and fused in a glass stopper. A glass tube is now blown into a bulb, the stopper is placed in it, and both bulb and stopper are fused together. The bulb is then exhausted of its air—for the electric light requires a vacuum for its brilliancy—and the opening at its apex is closed by fusing. The platinum wires of the lamp are connected with copper wires from a battery, and the lamp is ready for use. A very simple contrivance for breaking the current by turning a key serves to ignite or extinguish the lamps. Each lamp is guaranteed to burn 800 hours; after about that period both the platinum and the carbon are exhausted by slow combustion, and a new lamp must be fitted on. The principal differences between the incandescent lamps is in the preparation of the carbon filament. Those for the Swan lamp are made from cotton fibers soaked in sulphuric acid, then packed in fine coal-dust, and exposed to heat. The Maxim lamp filaments are prepared from Bristol paper; those of the Lane-Fox lamp from hemp and coke; those of the Bernstein lamp—one of the most brilliant made—are of silk carbonized in coal-dust. The half-incandescent lamps are quite a recent invention, the first being made in 1878. In these the light arises at the point of contact, and the essential features of the plan consist of a pencil of carbon pressed against a carbon block; as its point is consumed the pencil is pushed forward, thus rendering the light continuous. Some eight or nine different lamps have been invented on this plan. The regulated arc lamps include an even larger number of patents, of which the best-known in this country is the Brush light. The lights in all these are formed between the points of the carbon rods, and the details of clock-work for moving forward the rods as they are consumed are too technical for description. Still another style of electric lamp has the carbons inclined at an angle to each other, and some very successful lamps, as the Soleil, have been made on this plan. It might be here noted that the great impetus given to the electric light by the work of Mr. Edison was not so much in improving the lamp as in cheapening the process of generating the electricity, and inventing a ready mode of dividing the light. Hitherto the expense attendant upon the production of the electric force, and the difficulty of using it simultaneously at a large number of illuminating points, had been the two principal barriers in the way of applying the electric light to public use.

#### SILVERSPARRE'S BATTERY.

CHICAGO, Ill.  
Please give sketch of Silversparre's Battery, Illinois Artillery.  
H. JONES.

*Answer.*—This was Battery H, First Illinois Artillery. It was recruited in and about Chicago during the early part of 1862 by Captain Axel Silversparre. In March it was ordered to St. Louis, where it was equipped with four 20-pounder Parrott guns, and immediately sent down the river to join General Grant's command.

It arrived at Pittsburg Landing April 5, and took part in the battle of Shiloh on the following day. Subsequent to this battle the battery was attached to the Second Division of the Fifteenth Army Corps, remaining with this command till the close of its service. At Memphis during the summer of 1862, Captain Silversparre was made chief of artillery at Fort Pickens, and when there was captured by the enemy and never again joined the battery. He was succeeded by Levi Hart, who held command a few months only, and on his discharge in November the command devolved upon Frank DeGress, who made the battery a famous one in General Sherman's command. It was one of the active batteries before Vicksburg, before Chattanooga, and at Atlanta. Here, July 22, 1864, the guns of the battery were captured, but were retaken again. The battery went through Georgia with Sherman, then went to Washington and took part in the grand review.

#### THE CANADIAN FISHERY QUESTION.

CHICAGO.  
Give a brief resume of the whole fishery question, summarizing the provisions of the treaties with Great Britain on the subject.  
A. WILLSON.

*Answer.*—The treaty of 1783, which recognized American independence, gave to our fisheries the right to take fish on the banks of Newfoundland, in the Gulf of St. Lawrence, and in the bays and along the Canadian coasts generally. This treaty was abrogated by the war of 1812, and in the treaty of Ghent at the close of that conflict no provisions were made concerning the fisheries. As disputes then arose, the convention of 1818 drew up the particulars of a treaty to settle this matter. Its first article provided that, "The inhabitants of the United States shall have forever, in common with the subjects of his Britannic majesty, the liberty to take fish of every kind on that part of the southern coast of Newfoundland which extends from Cape Ray to the Rameau Islands; on the western and northern coasts of Newfoundland from the said Cape Ray to the Quirpon Islands" on the shores of the Magdalen Islands, and also on Labrador; also that the "American fishermen shall have liberty forever to dry and cure fish in any of the unsettled bays, harbors, and creeks of the southern part of the coast of Newfoundland here above described and of the coast of Labrador"—such right to terminate when any portions become settled. On the other hand, the United States agreed to "re-nounce any liberty heretofore enjoyed or claimed by the inhabitants thereof to take, dry, or cure fish on or within three marine miles of any of the coasts, bays, creeks, or harbors of his Britannic majesty's dominions in America," and were only to enter such bays or harbors for shelter or to obtain wood or water. In addition to our rights under this treaty of 1818, the reciprocity treaty of 1854 gave us the right to take fish of every kind, except shellfish, on the sea coasts and shores and in the bays, harbors, and creeks of Canada, New Brunswick, Nova Scotia, Prince Edward's Island, and to land for the purpose of drying nets, curing fish, etc., providing we did not interfere with the rights of private property. In return for these

concessions the United States gave the Canadians the right to inshore fishing on her shores and also agreed to allow free trade between the people of the two countries. It would seem that the people of the United States should be able to compete with those of Canada, but they did not think themselves so, and soon began to clamor for the restoration of the old tariff. Accordingly, in 1866 the United States withdrew from the treaty, having given the requisite twelve months' notice to England the year before. In framing the provisions of the treaty of Washington in 1871 the British members of the negotiating commission desired to settle the fisheries question by restoring the reciprocity treaty. To this the Americans would not consent, but they offered, as the equivalent of the inshore fishing right that they desired, to admit free of duty fish and fish oils exported from the Canadas to the United States. "Inasmuch as it was asserted"—to use the language of the treaty—that the privileges accorded to the citizens of the United States were of greater value than those granted to the Canadians, it was further agreed that a commission should be appointed with power to examine and award a money indemnity to the party profiting least by the compact.

A full account of the circumstances of this award was given in this department about a year ago, and the reader will find it in *Our Curiosity Shop* book for 1886. The commission appointed consisted of Ensign H. Kellogg, of Massachusetts; Sir Alexander T. Galt, of Canada; and Maurice Delfosse, the Belgian Minister at Washington. It was asserted that the choice of M. Delfosse was made by the Canadian Minister, and that this gentleman had been bought beforehand to assure his consent to the exorbitant award demanded by Canada. The votes of Sir Alexander Galt and Mr. Delfosse then awarded to Canada \$5,500,000 for the twelve years' duration of the treaty. The Government at Washington protested, pointing out that the entire net profit on the inshore fisheries was but \$25,000 per year, or \$300,000 for the term of twelve years, to say nothing of the remission of the fish and oil duties, estimated to be worth to Canada at least \$350,000. However, after a somewhat angry correspondence, the United States paid the award. It would seem that if Canada really needed such a large sum to reimburse her for the loss occasioned by our fishing on her shores, she would scarcely be very anxious to renew the treaty when the subsidy had been withdrawn. Yet it was asserted that the cause of the overbearing conduct of the authorities of Nova Scotia and New Brunswick toward New England fishermen was the unwillingness on the part of this country to renew the treaty. June 20, 1885, the treaty of Washington expired by limitation. By mutual agreement with the British foreign office, President Cleveland proclaimed an extension of the fishery agreements for six months, urging Congress to provide in the meantime for a renewal of the treaty in this regard, as the United States must otherwise fall back on her old meager rights under the treaty of 1818. This agreement, of course,

did not prevent the restoration of the fish duty, which was, in the case of the United States, one cent per pound. The New England fishermen, it appears, considered the advantage given them by the duty more than sufficient to offset their additional rights under the treaty, and they therefore protested against its renewal. Accordingly, on Dec. 31, 1885, the fishery clauses were allowed to lapse without further discussion. With the opening of the fishery season of 1886, therefore, fresh disputes began. First, the New England fishermen wanted to land at the northern ports as usual to ship crews of fishermen and purchase bait, but the local authorities forbade it, reminding them that under the treaty of 1818 they could land only for water or fuel. The change in the manner of catching the fish of late years has made the question of bait an exceedingly important one. This "bait" is small fish cut up in bits, which is thrown into the water to attract the larger fish. This must be used as fresh as possible, and for this reason it is an important matter to find it near the fishing grounds. The question of the three-mile limit is an annoying one, because it is variously interpreted, the authorities choosing in some cases to understand it as meaning a straight line drawn from points three miles outside of the headlands of the coast, and not merely a three-mile distance from the coast at any point. Several United States vessels have been seized for trespassing by the local authorities of the provinces, but thus far nothing has come of the difficulty but a good deal of ill-feeling, and considerable threatening and fuming. A bill has been passed by Congress giving to the President discretionary power to suspend trade privileges with Canada whenever he considers it advisable to retaliate for insults received. As the fishery trade constitutes not more than 2 per cent of our commerce with Canada, it is to be hoped that the President will not soon exercise the "discretionary power," but that the proper and reasonable method of settling all these differences by treaty will be adopted.

#### THE LARGEST VOLCANIC CRATER IN THE WORLD.

KANSAS, ILL.

Give description of the volcanic crater of Kilauea, on the Sandwich Islands, said to be the largest in the world.

L. MCADAMS.

*Answer.*—The volcano of Mauna Loa, on the Sandwich Islands, has two craters, one of which is Kilauea. The mountain is 14,100 feet high, and Kilauea is situated on its eastern side, about 4,000 feet above sea level. This crater is a vast lake of boiling lava, 16,000 feet long and 7,640 feet wide. Its circumference is nearly eight miles, and its depth from the summit of the opening to the level of the lava is over 1,000 feet. The sides of this pit are sloping and easily descended, and travelers often go down to the very brink of the boiling lake. The lava in this lake rises and sinks continually by the action of the subterranean forces. There is no noise or explosive action, and geologists suggest that the volcano originated in a fissure merely, which has been slowly enlarged by the lava encroaching upon and eating away its sides. A peculiarity of this volcano is the production here of large quantities of glassy lava in the



form of filaments. This seems to be caused by the passage of steam through the molten lava, which throws small particles or shots of the glass into the air, and these leave behind them fine, gleaming filaments like a tail. The natives call this substance "Pele's hair," Pele being the name of the goddess of the mountain. The birds of the island often take it to build their nests with. Kilauea is the largest active volcanic crater in the world. It has been always active, in its unobtrusive fashion, from the earliest memory of the natives. About a year ago it became perfectly calm for a time, producing great alarm among the inhabitants of the island. However, the calamities thought to be portended by this quiescence did not occur, and after an interval the crater resumed ebullition as usual.

## RELIGIOUS STATISTICS.

LEBANON, Tenn.  
Give statistics of the different Christian denominations of the United States. J. A. FORSTER.

*Answer*—The following are the latest obtainable figures on the subject, but probably they are only approximately correct:

Adventists, Second.....	70,000
Adventists, Seventh Day.....	15,570
Baptists (regular).....	2,296,327
Baptists, Anti-mission.....	40,000
Baptists, Free Will.....	78,012
Baptists, Seventh Day.....	8,539
Baptists, Six Principle.....	2,000
Christian.....	591,821
Congregational.....	381,697
Dunkards.....	100,000
Episcopal (Protestant).....	398,000
Episcopal, Reformed.....	9,448
Evangelical Association.....	117,027
Friends.....	60,000
Lutherans.....	950,368
Mennonites.....	50,000
Methodist Episcopal.....	1,924,420
Methodist Episcopal (South).....	860,687
Methodist Episcopal (African).....	387,566
Methodist Episcopal (African Zion).....	300,000
Methodist Episcopal (Colored).....	112,938
Methodists, Free.....	12,318
Methodists, Congregational.....	13,750
Methodists, Primitive.....	3,369
Methodists, Protestant.....	135,000
Methodists, Welsh and Calvinistic.....	118,979
Methodists, Wesleyan.....	17,087
Moravian.....	9,401
New Jerusalem, or Swedenborgian.....	3,994
Presbyterian.....	600,695
Presbyterian (South).....	123,806
Presbyterian, Cumberland.....	111,863
Presbyterian, Reformed.....	17,273
Presbyterian, United.....	84,573
Reformed Church (Dutch).....	80,167
Reformed Church (German).....	155,857
Unitarians.....	17,960
United Brethren.....	157,835
Universalist.....	27,429
Winebrenerians.....	30,000
Roman Catholics.....	6,832,954

The figures for the Roman Catholics are from the year-book of that church which sums up the adherents, but does not report church memberships. The other figures are from the estimates by the denominations of their actual membership.

## U. S. TREASURY—NATIONAL BANKS.

WINONA, Minn.  
1. Why was the Treasury of the United States established? 2. When, how, and why were National banks established? C. KELLAM.

*Answer*.—1. The United States Treasury was established by law Sept. 2, 1789. A financial department had existed under the Articles of Con-

federation, but as no power then existed to collect revenue from the States the treasury was usually empty, and the duties of its head were but light. But upon the establishment of the new government this department was reorganized, and the title of its head changed from Superintendent of Finance to Secretary of the Treasury. Its duties were to collect, manage, and disburse the public revenue. The laws governing the details of the new department were drawn up with such precision and comprehensiveness by Alexander Hamilton that few changes have since been made in them. 2. The plan of the National banks is said to have originated with Salmon P. Chase, then Secretary of the Treasury. In his report for December, 1861, he recommended the gradual issue of National bank notes, secured by the pledge of United States bonds, in preference to the further issue of United States notes, \$50,000,000 of which had been issued during the previous year. A bill was soon after prepared in accordance with the Secretary's views and printed for the use of the Committee of Ways and Means, but it was not reported, and on the 8th of July following, Thaddeus Stevens, the chairman of the committee, submitted the bill with an adverse report. The immediate necessities of the government compelled the further issue of legal tender notes, and the consideration of the bank act was deferred. In his report for 1862 Mr. Chase again urged the passage of the National bank bill, and President Lincoln also recommended it in his message. The principal reason why Mr. Chase advocated this system was because he thought it would greatly facilitate the negotiation of United States bonds, in other words, make it much easier for the government to borrow money. It was also claimed that it would secure to the people in all parts of the country a currency of uniform security and value, and protect them from loss in discounts and exchanges—advantages which were regarded as of much importance then, after the experience people had had with State banks whose issue was good in Pittsburg and worthless in Cleveland, and vice versa, and might be stable in either place one day and worthless the next, to say nothing of the annoyance of carrying a hundred dollars as many miles, and finding it only rated at forty. Still, there was much opposition to the National bank bill. Early in 1863, it was introduced into the Senate by Mr. Sherman, and referred to the Finance Committee, from which it was reported by him Feb. 2, and ten days later passed by a vote of 23 to 21. On the 20th of the same month, it also passed the House of Representatives by a vote of 78 to 64. When the bill was revised and again brought before Congress for passage, in June, 1864, the vote in the Senate was 30 in favor and 9 against the bill. It was claimed at the time this bill was under discussion, and has been even more strongly urged since by certain classes, that all the advantages of stability and uniformity of currency could be even better secured through a government issue of notes, without the danger of the creation of a great money monopoly. But there was a strong ob-

jection on the part of many whose opinions had great influence against thus making the government, as it were, the one bank of issue for the country. Secretary Chase issued legal-tender notes, it is true, and thus saved the government at a most critical time, from serious financial embarrassment. But he defended the act as one required by the grave exigency existing, rather than as the inauguration of a sound financial policy.

#### IRON AND COPPER MINES OF MICHIGAN.

OTAWA, Kan.  
Tell something about the iron and copper mines of Michigan. M. L. W.

*Answer.*—About 1840 Dr. Douglas Houghton gave a report to the Michigan Legislature concerning the mineral resources of the Upper Peninsula. He had spent over ten years in this region, and had thoroughly studied its geology, and was the first to announce to the world its great mineral wealth. Exploring parties were soon after busy in the mineral range, and in 1845 the first copper mine was opened on Eagle River, and in less than two years its working had become a profitable investment. The great mine known as the Minnesota Mine was opened in 1848. Exploration was pushed on to Portage Lake, and in 1865 the Calumet conglomerate was discovered. This formation is peculiarly rich in a very fine quality of copper ore, and the Calumet and Hecla Mine, as it is called, has for the last fifteen years or so yielded fully one-third of the entire product of the district. The copper mines include four districts, the Ontonagon, which extends to the base of Keweenaw Point, and contains the smaller and least important mines; the Keweenaw, covering the northern extremity of the point, and containing many rich fissure veins; the Portage Lake, which has the great productive mines, and Isle Royale, a narrow, rocky island near the north shore of the lake, which has the outcropping of the richer districts. Between the opening of the first mine and the close of 1881 these copper districts produced 330,000 tons of refined copper of a market value of not less than \$150,000,000. The upper Michigan peninsula divides with Chili the honor of being the chief source of the world's supply of copper. Its yield far exceeds that of Spain, and is very much greater than that of the Australian or Cornish mines. The metal occurs in the bedded trappean rocks, with inter-stratified sandstones and conglomerates. The copper is not found generally in the form of the ore but is virgin copper, almost chemically pure in the vein, and is ready for the market when freed from the matrix. It is distributed in three forms, in large masses, in ragged root-like pieces, or small scattered particles. It is mined by deep shafts and connecting galleries, and when brought to the surface is separated from the rock by being first smashed under the ponderous hammers of stamp mills, then is put into the fires of the melting furnace. In tenacity the copper of these mines surpasses all other copper known.

The iron deposits of Northern Michigan were also mentioned by Dr. Houghton. In 1844 a United States surveying company going through

this region noted the unusual variations of the needle. In the following year the agents of a copper mining company happened to strike a rich deposit of iron ore. The first ore was taken from the first mine opened—the Jackson Mine—in 1846. It yielded in that year 300 pounds. The production of all these Michigan iron mines to-day is only second to that of the Pennsylvania mines. There are three iron-producing districts: The counties of Marquette and Baraga, where the most developed mines are north of Marquette, about Negaunee and Lake Michigan; the Menominee district, in the north and west of counties of the same name, along the Menominee River, where there are fifteen mines; and, lastly, the Agegebic district, around the lake of that name, largely in Ontonagon County; this district is still imperfectly developed. The aggregate product of the Lake Superior iron country to the close of 1881 was estimated at \$138,500,000.

#### CHARLOTTE BRONTE.

PIPER CITY, Ill.  
Give a sketch of Charlotte Bronte and her works. E. F.

*Answer.*—Charlotte Bronte, the authoress, known to literature for many years by the nom de plume of "Currer Bell," was born in Yorkshire, Eng., April 21, 1816. Her father was a curate of the Church of England, a man of much talent and scholarship, but morose and eccentric in disposition. There were four daughters and one son in the family, and they were so unfortunate as to lose their mother when the youngest was a mere infant. The girls, when old enough, were sent to boarding school, where impure air and bad food seriously impaired their health. The eldest daughter, next in age to Charlotte, died at school from the effect of treatment there. The reader of "Jane Eyre" will find in its earlier chapters an account of the death of this sister, and a graphic picture of the wretched life the children endured when at school. In 1835 Charlotte became a teacher in a school at Roe Head, and in 1841 was a governess in a private family. Charlotte, with her sister Emily, went to Brussels in 1842 to study French, and the former also taught English while there to support herself. In 1846 the sisters published a volume entitled "Poems by Currer, Ellis and Acton Bell," but it attracted very little notice. About two years later Charlotte, under the pressure of great domestic trial wrote "Jane Eyre," a novel which won great popularity almost immediately. Of this it was said at the time by *Fraser's Magazine*, "Almost all that we require in a novelist this writer has—perception of character and knowledge of delineating it, picturesqueness, passion, and knowledge of life." Her success stimulated her sisters to publication also. In 1847 Emily published a tale, "Wuthering Heights," and Anne produced "Agnes Grey" about the same time, and the following year another, "The Tenant of Wildfell Hall." Though these works showed ability they lacked the touch of genius, and were not very successful. Emily Bronte died in December, 1848, and Anne in May, 1849. To divert her mind from her loneliness



ness and sorrow Charlotte began writing again, and in the latter part of 1849 published another novel—"Shirley." About the same time she visited London and made the acquaintance of a number of noted authors, but solitude and grief had rendered her shy and quiet, and she did not take much pleasure in society. Her second book was very successful, however, and was the means of introducing her to a number of kind friends. About the close of 1852 she finished another novel, "Villette," which was received with a burst of admiration. In December of that year she received a proposal of marriage from Arthur B. Nicholls, who had been curate of Haworth, the village in which she lived, for a number of years, and had long known and admired her. Because of her father's opposition to the match, she at first declined the offer, but Mr. Bronte finally consented, and the pair were wedded in June, 1854. After a brief taste of domestic happiness this gifted woman died in March, 1855. Charlotte Bronte was not only a woman of remarkable mental ability, but of great beauty of character. Her life was very sad, being shadowed by the moroseness of her father's temper, the loss of her mother, the wild and erratic character of her only brother, who, though possessed of fine talents, early fell into bad company, became very dissipated, and died in early manhood from the effect of his excesses. Then came the early deaths of her sisters, which robbed her literary success of all power to increase her happiness. But these experiences, though they saddened, did not embitter her, and in reading her life one can not but feel that only a very strong character could keep its equipoise and sweetness through her unhappy experiences. A very interesting life of Charlotte Bronte was written by Mrs. Gaskell, who was her warm personal friend.

#### WHITE HOUSE WEDDINGS.

How many weddings have occurred in the White House at Washington? Give list and some description of them if possible.

CAMPBELL, III.  
NELLIE MORTON.

*Answer.*—There have been nine weddings in the President's mansion, including the most recent one, that of President Cleveland. The first of this list of weddings was during President Madison's administration, when Miss Todd, a relative of Mrs. Madison, was the bride, and John G. Jackson, of Virginia, who was then a member of Congress, was the groom. The first East Room wedding was that of Elizabeth Tyler, whose father was then President, and William Waller, of Williamsburg, Va. Miss Tyler was just 19, as was also Nellie Grant when married. President Adams' son, John Quincy, Jr., married his cousin, Miss Johnson, in 1826. The wedding took place in the White House in President Adams' administration. When General Jackson was President there were two weddings in the White House. Miss Easton, his niece, and Mr. Polk, of Tennessee, and a relative of Jackson, were married. The other was that of Miss Lewis, of Nashville, and Mr. Paqueol, who was afterward French Minister to this country. Martha Monroe married Samuel Gouverneur, who was for a while President Monroe's private secretary.

The wedding took place in the East Room, and the bride was just turned 17. Perhaps the wedding of Nellie Grant and Algernon Sartoris was the most brilliant of all these White House weddings. The ceremony took place in the East Room and the pair stood under an immense floral bell, with a background of flowers filling the big east window. There were six bridesmaids and a distinguished company. It was a morning wedding, and General Grant gave away his daughter with tearful eyes and ill-concealed emotion. During President Hayes' term, his niece, Miss Emily Platt, and General Russell Hastings were married. The wedding was in the blue parlor, decorated with flowers, and here also the bride stood under a bell of flowers. Though Mr. Cleveland's wedding was the ninth that occurred in the mansion, it was the first wedding of a President that took place there. President Tyler, the only other President who was married during his term of office, went to the home of his bride, Miss Gardner, in New York, for the ceremony.

#### THE BEAUHARNAIS FAMILY.

YORK, III.  
Give a history of the children of the Empress Josephine and their descendants.  
F. W. S.

*Answer.*—The Empress Josephine had been the wife of the Vicomte Alexandre Beauharnais, a gallant soldier, who had served under Count de Rochambeau in the American war of independence, had espoused the popular cause at the outbreak of the French revolution, but was guillotined like many another true friend of liberty during the supremacy of the tyrannical terrorist party. He left two children, Eugene and Hortense, both of whom Napoleon Bonaparte adopted on his marriage to their mother. Eugene accompanied his stepfather in his campaign in Italy and in the expedition to Egypt, and rapidly rose to the highest military rank. In 1806 he married the Princess Amalie Augusta of Bavaria, and Napoleon gave him the title of Prince of Venice and proclaimed him heir to the crown of Italy. He was then only 24 years old, but he showed great prudence and discretion, and in his administration of affairs in Italy accomplished many needed reforms. His military talents were great, and were displayed particularly in the Italian campaigns, in the Austrian wars, and especially in the retreat from Russia, where the preservation of the French army from total destruction is largely to be ascribed to his skill and resolution. The victory of Lutzen was also decided by his military prowess. He then went to Italy, where he raised an army to aid Napoleon's waning fortunes, and held out bravely until overcome by the numbers of the allied forces. Then he retreated to the court of his father-in-law in Bavaria. He purchased there the land graviate of Leuchtenberg, and took his place among the Bavarian nobles. He left two sons and four daughters. The eldest daughter, Josephine, married Oscar I, King of Sweden, and her son now sits upon the throne of that country. The second daughter, Eugenie Hortense, married the Prince of Hohenzollern Hechingen, and the third, Amelie Auguste, became the wife of Dom

**Pedro I. of Brazil.** Of the two sons the eldest, Charles Augustus Napoleon, married the Queen Donna Maria, of Portugal, in January, 1835, but died in the following March. The second son, Max Eugene Joseph Napoleon, who succeeded to the dukedom on his brother's death, married the Grand Duchess Maria, a daughter of the Emperor Nicholas of Russia, and his children bear the name of Romanowski, and are ranked among the members of the Russian imperial family. He died Nov. 1 of disease of the lungs brought on by a scientific tour in the West. He was a zealous mineralogist, and left large collections which are preserved at St. Petersburg.

**Hortense Eugénie Beauharnais,** the Empress Josephine's daughter, in 1802 married Louis Bonaparte, brother of Napoleon. The union was brought about in obedience to the wish of the Emperor, but proved a most unhappy one. In 1806 Hortense became queen consort of Holland, as her husband had been made King of that country, and accompanied him thither with great reluctance. About a year later she left her husband, after having given birth to three sons—Napoleon Charles, who died in infancy; Napoleon Louis, who was baptized by Pope Pius VII., and was believed to be intended for some lofty destiny, but who was killed in an insurrection in Romagna in 1832, and Louis Napoleon, who became Emperor of the French. Queen Hortense was made Regent of Holland on her husband's abdication in 1810, but Napoleon soon annulled this arrangement. She lived in retirement at Malmaison until her mother's death in 1814, then lived in Paris till after the disaster at Waterloo. Napoleon would not allow her to have a divorce from her husband, but she lived apart from him, and was said to have had other lovers. After Waterloo she lived for a time in Bavaria and Saxony, then settled in her castle at Arenenberg, in Switzerland, where she devoted herself to the education of her children. After the death of the elder she again visited Paris, but soon returned to her retirement again. She died at Arenenberg Oct. 5, 1837. A full account of the adventurous life and death of Louis Napoleon was given in *Our Curiosity Shop* book for 1886. His only child, the Prince Imperial, Napoleon Eugene, was killed in Zululand Jan. 1, 1879, when but 23 years of age.

#### THE FIRST TELEGRAPHIC AND CABLE DISPATCHES

**1.** By whom was the first message sent by telegraph? The words were, I believe, "What hath God wrought?" **2.** What was the first message sent over the Atlantic cable?  
MRS. N. B. PALMER.

**Answer.**—By means of an appropriation made by Congress, a line of telegraph was built by S. F. B. Morse, the inventor of the electric recording telegraph. This line extended from Washington to Baltimore. The first message as quoted was sent at the dictation of Miss Anna Ellsworth. The announcement of the nomination of James K. Polk for President by the Democratic convention was the next message. **2.** On Friday, July 27, 1860, at 8 a. m., the squadron comprising the cable-laying vessels arrived off Bear's Content, Trinity Bay, Newfoundland,

the distance run being 1,669 miles, and the cable paid out 1,864 miles, showing a total slack of about 11 per cent. The first message which passed over this line was the announcement of peace between Prussia and Austria, which had been agreed on the day before at Nicholasburg.

#### NEWFOUNDLAND FOGS—MIDSUMMER HEAT.

**1.** How do you account for the dense fogs seen on the coast of Newfoundland? **2.** Why is the month of July hotter than the month of June? N. W. DIBLE.

**Answer.**—**1.** The Arctic current from Davis Straits, which washes the eastern shores of Newfoundland, in the spring carries with it a burden of ice fields and icebergs. Outside of the Newfoundland banks this current meets with the warm waters of the gulf stream, and, mingling with them, enormous masses of vapor are generated. This is the cause of the fogs which in summer so frequently overhang the banks in the vicinity of this "meeting of the waters." When winds from the south or southeast prevail the fog is rolled in on the shores of the island, covering the bays and headlands with a thick vapor. This fog prevails on the southern and southeastern coast almost wholly, being little known on the western and northern shores, and seldom penetrating far inland. Also it is only during a part of the year that the fogs are wafted toward the shore. When westerly winds prevail the vapors are carried out to sea. In winter there is little fog, as the Arctic current is then stronger and pushes the gulf stream more to the south, while in summer the latter spreads its warm waters near the shores and thus creates the huge masses of vapor that envelop the sea and the shore. **2.** The heat of summer, like the heat of the day, is cumulative. The first cause of summer heat is the verticality of the sun's rays, which being distributed on a smaller space than when more oblique cause a more intense heat; the second cause is the longer day of summer. When the sun is above the horizon, at any part of the globe, that part is receiving heat, which, however, it begins to lose by radiation as soon as the sun sinks below the horizon. When the sun is above and below the horizon for an equal time the same amount of heat is received and radiated, and the temperature is little changed. When the sun is more than twelve hours above the horizon, more heat is received than is radiated, and the general temperature rises; when it is more than twelve hours below more heat is radiated nightly than has been received during the day, and the general temperature falls. Thus, as the days lengthen in the spring, the weather is growing warmer; in autumn it is growing colder. The maximum of heat, however, is not the greatest at the summer solstice. To be sure, the sun's rays are then the most direct, the daily increase of heat is the largest, and the nightly loss least, and the net increase for one day is the greatest. On succeeding days the net increase of heat, though not as great, is still greater than the expenditure, and the aggregate increases. This increase in accumulated heat will continue until the maximum is reached, when the loss at night equals the gain by day, and begins to exceed it. The maximum



of heat is gained when the sun's declination is 12 degrees north, about Aug. 20; the maximum of cold when it is 12 degrees south, Feb. 10. For similar reasons the warmest part of the day is about 2 o'clock p. m., and the coldest part of the night shortly before sunrise. It should be remembered that when the above reasoning applies to the northern hemisphere, it is reversed for the southern, and vice versa. Further, that this reasoning applies to the hemispheres as wholes, and takes no account whatever of the modifying influences of bodies of water, mountain ranges, etc.

#### THE GERMAN EMPIRE—BUNDESRATH AND REICHSTAG.

HUNTER. III.

1. Give a brief history of the German Confederation. 2. What is the Bundesrath and Reichstag, and how are the members of these bodies chosen? 3. Define the word Staatenbund. W. H. THORNTON.

*Answer.*—1. The German Confederation is now known as the German Empire. It consists of four kingdoms, six grand duchies, five duchies, seven principalities, three free cities, and the imperial province of Alsace-Lorraine. In 1806 Napoleon Bonaparte established the Rhine Confederation on the ruins of the Germany which Charlemagne had founded 1,000 years before, an empire known to medieval Europe as "The Holy Roman Empire of the West" (see article on the Emperors of Germany in Our Curiosity Shop book for 1886). This confederation included the South German states only, and was under the protection of Napoleon. Prussia endeavored to establish a league of the North German states in opposition, but was unable to do so. When Napoleon was dethroned and sent to Elba the Rhine Confederation was dissolved, and a new union was attempted. The Congress of Vienna, meeting in 1815, undertook the regulation of German affairs, and a new confederation was founded, which was to be under the Presidency of Austria. The federal act adopted by the representatives of the German States proclaimed the confederation to be "a corporation of self-dependent and, with regard to each other, independent states, and, with regard to external affairs, a politically united power." But this union, like that in this country previous to the adoption of the Constitution, was a total failure and for the same reason—because there was no central authoritative power. The diet was composed of representatives of the several states, each of which was ruled over by a prince, and mutual jealousies and dissensions prevented all wise movements for the good of the entire confederation. John Stuart Mill says of this confederation that it "served only to give Austria and Prussia the legal right of pouring in their troops to assist the local sovereigns in keeping their subjects obedient to despotism; while in regard to external concerns the union would have made all Germany a dependency of Prussia, if there were no Austria, or of Austria if there were no Prussia; and in the meantime each petty prince had little choice but to be a partisan, or to intrigue with foreign governments against both." The rivalry of Austria and Prussia thwarted all attempts to form a union of the states on a more

satisfactory basis, and it was not until Austria was thoroughly conquered in the war with Prussia, in 1866, that the German Confederation was dissolved. Prussia then established the North German Confederation, which took in the North German states, and treaties of friendship were formed with the states of Baden, Hesse, Bavaria, and Wurtemberg. The successes of the German armies in the Franco-Prussian war served to intensify the national feeling to such an extent that the states outside the confederation could not contend against the general desire for unity. In December, 1870, treaties were concluded by which all the states were united under one central government, and the name of the confederation was changed to the German Empire, and Jan. 18, 1871, King William of Prussia was proclaimed Emperor of Germany. 2. The Bundesrath of Germany, or federal council, is a body combining the functions of a legislative assembly with those of an executive body. It consists of fifty-nine delegates from the several states, of which number Prussia sends seventeen, Bavaria six, the kingdoms of Wurtemberg and Saxony four each, several of the duchies three or four each, and the remainder of the states but one each. The difference of representation is based partly on population and partly on hereditary custom. The members are appointed by the legislative assemblies of the different states, and are supposed to act directly on the instructions of their respective governments. The delegation from each state casts its vote as a unit according to instructions. If it is known that no instructions have been given the vote of a state may be declared invalid, but the council has not power, as a body, to examine whether its members have followed their instructions or not. In this way the council passes upon all laws and all treaties. The executive duties of the council are intrusted to seven committees, chosen at every session. The Bundesrath has also judicial duties, as disputes between states are referred to it and settled by a court chosen from its members. It also has jurisdiction over consular cases and cases arising under treaties. The Emperor is President of the Bundesrath, and he has power also to appoint the chancellor as acting chairman and controller of the business of the council. (See Our Curiosity Shop for 1886 for statement of the duties of the German Chancellor.) The members of the Reichstag, or imperial diet, are elected for three years in the ratio of one representative for every 10,000 inhabitants. States having less than 10,000 people can have one representative. Every citizen of the age of 25 years may vote for members of the Reichstag in the state in which he resides. If he has been a resident of the state for one year previous, any voter may be a candidate for election. The Reichstag has the usual legal power of a chamber of deputies, but it has no power to force a change of ministry, nor to bring about a change of administration through a presidential election. Its actual work is confined to checking the arbitrary powers of the Bundesrath. It can reject bills and refuse appropriations, and this it

often does; it can also initiate legislation, but this it seldom does, having no power to compel the other house to accept its bills. 3. A staaten-bund is a confederation of states in which the individuality of the component states is but slightly controlled by the central government, as the German Confederation before 1866, or our own government before the adoption of the Constitution. A bundesstaat, on the other hand, is a federative union like our own or that of Germany, in which the individuality of the states is subordinate to the central federal power.

#### CONTESTED PRESIDENTIAL ELECTIONS.

CENTREVILLE, Mich.

Give the number of contested Presidential election cases in this country, the points in dispute, and how settled.

*Answer.*—There have been three instances wherein the election for President has been so close as to afford opportunity for contest. The first was in the case of the election of Jefferson and Burr, in 1800. Mr. Jefferson was then the understood candidate for President, and the second place on the ticket was given to Aaron Burr, as his party's choice for Vice President, but as the Constitution then stood, when it was found that the two had an equal number of votes, it was necessary to decide by ballot of the House of Representatives which one of them should take the Presidential office. The friends of Burr made a strong effort to secure the necessary votes to make him President, but, fortunately, it was not successful. The balloting began Feb. 11, 1800, and continued for nearly a week, the thirty-five trials in this time producing identically the same result—eight States for Jefferson, six for Burr, and two divided. The vote of nine States being necessary, there was no choice. On the thirty-sixth ballot, taken Feb. 17, Mr. Jefferson received the votes of ten States and Burr of four States, and the former thereupon became President. Before the next election the eleventh amendment to the Constitution had been submitted to the people and been ratified, and as this provided that the person voted for as President, and the one voted for as Vice President should be distinctly named as such on their ballots, a recurrence of the complication of 1800 was made impossible. The next close election was in 1824, when there were four candidates for the Presidency, each with a large following among the people. The consequence was that no one of the four received a majority on the electoral vote. [For full account of this election see Our Curiosity Shop book for 1884.] The election therefore devolved on the House of Representatives, where a choice was made on the first ballot—thirteen States voting for John Quincy Adams, seven States for General Jackson, and four States for W. H. Crawford. Mr. Calhoun, the candidate for Vice President on the ticket with General Jackson, received a majority of the electoral votes at the time of election. In 1836, none of the four candidates for Vice President receiving a majority on the electoral vote, the selection passed to the Senate, which chose R. M. Johnson. The contested election of 1876, the most serious of our his-

tory, is still fresh in the minds of all. The difficulty then was that there were double returns from four of the States, Louisiana, Florida, Oregon, and South Carolina. As each party charged the other with securing votes by unlawful means, it was plain that the matter could never be settled in Congress. The dispute was arranged, therefore, by the choice of an electoral commission, composed of five members from each house of Congress and five of the Supreme Court Judges, to examine the electoral returns. Seven of the members of the commission were Democrats and eight were Republicans, and by a strict party vote these decided the doubtful States in each case in favor of the Hayes electors. The decision was acquiesced in by the country, and the Republican candidates were duly installed in office.

#### HOW TO POLISH HORNS.

SHELBY, Iowa.

Tell how to clean and polish cows' horns.  
C. BROWN.

*Answer.*—First boil the horn to remove the pith, if it has been freshly taken from the animal; but if it is an old, dry horn the pith may be dried out, and boiling is not necessary; but it may be laid in hot water for a short time to make it soft. Then scrape off all the roughnesses with a coarse file, a knife, or a piece of glass. When the rough spots are removed rub around the horn with coarse sandpaper, then with a finer kind. After this, rub the horn lengthwise with a flannel cloth which has been dipped in powdered pumice-stone or rotten stone, and moistened in linseed oil. This rubbing should continue till all the sandpaper marks are removed, then give a final rubbing with a clean flannel cloth, and lastly with a piece of tissue-paper.

#### MAKING ARTIFICIAL ICE.

YORK, Neb.

Give us some account of ice-making machines. Why does water become solid in freezing?  
G. E. FAIR.

*Answer.*—All ice-machines that have proved of any practical utility are of two kinds, those which lower the temperature by the rapid expansion of a compressed gas, and those which secure the cooling effect by the volatilization of some liquid. In machines of the first type, the gas usually employed is compressed air. The possibility of congealing water by rapid evaporation was discovered by chemists early in the century and put to various scientific uses, but it was not until 1850 that anything like a commercial application of ice-making machinery was made. The first machine for ice-making was invented by Jacob Perkins, an American, in 1834. This acted by vaporizing ether in a vacuum, and answered the purpose of a cooling machine but did not produce ice successfully. Several similar inventions followed that of Perkins, that of Professor A. C. Twining, of Middlebury College, being the most successful. This was patented in 1849, and the first machine made under the patent began the manufacture of ice in Cleveland, Ohio, during the following year. From the success of these machines, the manufacture of others was stimulated, and in 1859 Carre, a Frenchman, made a great improvement by intro-



ducing the use of ammonia. The construction and working of this machine is very simple: A wrought-iron boiler capable of resisting a pressure of ten atmospheres is connected by a tube with a freezing chamber having two concentric compartments, the outer one connected with the boiler, and the inner one containing the vessel holding the article to be frozen. The freezing chamber is placed in a cold bath, and to the boiler, into which has been poured a quantity of a saturated solution of ammonia, sufficient heat is applied to create a pressure of six atmospheres, which expels the gaseous ammonia and forces it into the outer compartment of the freezing-chamber, where, by its own pressure and the action of the cold bath in which the chamber is placed, it is condensed in about one-tenth its weight of water. The boiler is then placed in cold water, and as its temperature falls the pressure in the apparatus is relieved, and the liquid ammonia vaporizes so rapidly as to produce the most intense cold. Linde's ice-making machine, invented about 1870, is the latest form of ammonia machine, and is said to be much the best made. The danger of explosion, which is one of the great disadvantages of using ammonia, is obviated by carrying the liquified gas through narrow iron tubes and using only a small quantity of the substance at one time. Blocks of ice are formed between the spokes of a revolving drum, which, cooled internally by the evaporating liquid, dips into a tank of water. Similar machines use methylic ether, but this is even more liable to explosion than ammonia. Sulphurous acid is also used, and this is in most respects far superior to either ammonia or ether. The first machinery for using compressed air in ice making was patented by John Gorrie, of New Orleans, in 1850. It has been quite successfully improved, especially in the Windhausen machine. We have not space to explain more than the general arrangement of these machines. The principle of cooling by gaseous expansion is used as in the ammonia machine, common air being employed instead of a volatile liquid. It must first be compressed, however, and compressed to an extreme degree, as the expansion is thus greater and more rapid when the pressure is removed, and the refrigeration thus made the more effective. But compressing air heats it, and it is therefore necessary to cool it by passing it through pipes surrounded with cold water, or chambers into which sprays of cold water are injected. When it reaches the expansion cylinder it is cooled to nearly ordinary temperature. Here expansion takes place with great rapidity, producing an extreme and sudden fall of temperature. It may be said that though much ingenuity has been expended on these various ice-making machines, scientists regard the manufacture of ice and artificial production of cold as arts still in their infancy, and predict the discovery in the future of much improved and more effective methods. Ice is simply water in the solid form. It may be assumed that ice is the normal condition of water—as it would be in the absence of all heat—for the physical difference in the

forms of water, i. e. water, steam, aqueous vapor, etc., is simply a greater or less separation of the molecules by the action of heat. As heat is withdrawn from water its constituent particles approach each other under the general law that the absence of heat contracts all bodies. When the temperature of 39 degrees Fahr. has been reached, the force of crystallization begins to act upon the atoms of the water, and this not only solidifies them but rearranges them in such manner that there are larger spaces between them than existed before freezing. It is for this reason that water in becoming ice expands instead of continuing to contract under the normal action of cold.

#### THE CLEVELAND BAYS.

ELLINGTON, Iowa.  
Please give a brief history of the breed of horses known as Cleveland bays.  
D. M. GRIER.

*Answer.*—A number of years ago there was a breed of horses raised in the vale of Cleveland Yorkshire, Eng., which received the name of Cleveland bays. The horse was especially adapted to the coach, and was capable of carrying a great weight and maintaining under it a rapid rate of speed. These horses were once recognized as a distinct breed, but modern authorities agree in the statement that the Cleveland bay as a pure breed has now become extinct. The so-called Cleveland bays of the present day are grades only, produced by breeding large, handsome and well-bred mares to thoroughbred stallions. Professor Low asserts that it is only the progressive mixture of the blood of horses of higher breeding with those of the common race that has produced the fine variety known as the Cleveland bay, and he asserts that the breed, if it ever existed in the district of Cleveland, was formed not by accidental mixture, but by continued cultivation.

#### THE WONDERS OF THE NEW WORLD.

CHICAGO.  
What are called the seven wonders of the new world?  
H. LOPER.

*Answer.*—The group of natural objects that have been classed as the seven wonders of the new world are Niagara Falls, Yellowstone Park, the Mammoth Cave, the Canons and Garden of the Gods, Colorado, the Giant Trees, California, the Natural Bridge, Virginia, and the Yosemite Valley.

#### TO TAN HIDES CHEAPLY.

BEATTIE, Kan.  
1. How can calf-skins be tanned simply and cheaply?  
2. How can I tan sheep-skins, squirrel or raccoon skins with the wool or hair on? O. A. KJELBERG.

*Answer.*—Green hides should first be thoroughly rubbed with salt, then put to soak in soft water from nine to twelve days. Take from the water and scrape the flesh side as clean as you can with a blunt knife. The following liquor is used to remove hair or wool: Ten gallons cold soft water, eight quarts slacked lime, and the same quantity of wood ashes. Soak until the hair or wool will pull off easily. As it is often desirable to keep the hair clean for other uses, the lime and wood ashes may be made into a paste and spread on the flesh side of the skin, which is rolled up and covered with water. After lying ten days in this soak the hair can be readily pulled out with the help of a knife. The skin

should be then well scoured, soaked for twelve hours in soapsuds and thoroughly pounded before it is taken out to break it. Now, take equal parts of oil of vitriol and water and apply it to the flesh side of the skin by means of a cloth or sponge tied to a stick. When thoroughly wet, roll up the skin and let it lie for twenty minutes, then put it in a solution of sal-soda and water, one pound of the soda to a bucket of water, letting it lie there for two hours, then wash in clean water. Now put into a tub and cover with a strong infusion of oak bark to which has been added about two pounds of common salt and one pound of alum for every twelve pounds of skin. Turn the skin and stir the mixture, adding some fresh oak bark infusion daily. Calf skins will require from twenty days to a month in this liquid to become tanned, and horse hides some two months. If it is necessary to hasten the process catechu may be used instead of oak bark, making a more astringent liquid. When the tanning process is about complete, take out the skins and when nearly dry work over a beam to soften them, and rub with a piece of pumice stone. 2. Our Curiosity Shop book for 1885 contains a very excellent recipe for tanning sheep skins and the hides of all small animals, with the wool or hair on.

#### SEVENTH IOWA CAVALRY.

BRANFORD, Fla.  
Give a sketch of the Seventh Iowa Cavalry, and especially of the movements of Company D.  
W. C. SYERS.

*Answer.*—The Seventh Iowa Cavalry was mustered in at Camp Hendershot, near Davenport, Iowa, in the spring of 1863. Eight companies were raised for it, and these were combined with three companies of the Forty-first Infantry, and one company known as Sioux City Cavalry. The headquarters of the regiment were placed at Omaha, and the companies were stationed at different points on the plains. In July, 1864, headquarters were transferred to Fort Kearney. In September nearly the entire regiment was with Curtis' expedition against the Cheyenne Indians, and on its return was stationed at Cottonwood Springs, Kan. All or part of this regiment was engaged in every Indian fight on the plains during the three years of its service. It was mustered out about the close of 1865. Company D went from camp to Fort Kearney, and in August, 1864, it was transferred to Fort Laramie. It was sent to Fort Halleck, Idaho, in September, and back again to Fort Laramie in December of the same year.

#### THE SUBMARINE CABLE.

HAVERHILL, Minn.  
Describe how the Atlantic cable is made.  
G. J. PRESTON.

*Answer.*—One of the problems of early attempts to establish submarine telegraph lines was to secure an effective mode of insulating the wires. The first substance used that seemed at all adequate to the purpose was gutta percha, and this, it was found, must also be protected. A cable insulated with an outside coat of gutta percha, simply, was laid between Dover and Calais in 1850, and worked one day only. The follow-

ing year another cable was laid between these two places, in which the wires, after being insulated with gutta percha, were protected by an armor of ten heavy wires. This is still in working order. The general plan of making submarine cables is much the same. In the first place if more than one conducting wire is used, each must be insulated from the others. Copper wires are employed, and each one is coated with two or more concentric layers of gutta percha. These are then laid together for the center strand, and about them all are laid at least three—more often four—layers of gutta percha, and besides, between these layers, a peculiar insulating compound, composed of melted gutta percha, wood-tar and rosin is applied, which not only penetrates into the pores of the gutta percha, but also by its adhesiveness unites the layers with each other. Before these layers are put on, the wires are tested to make sure that they are free from defects, that their conductivity and insulation are perfect. Around the gutta percha layers a wrapping of tarred hemp, technically called the bedding, is placed. This hemp is in strands, and by the use of a machine made for the purpose the strands are spun around the cable. After the core has been covered with hemp it passes through the armoring machine, by which the outside covering is put on. This is either of fine iron strands, spun into wires, or iron wires covered with hemp, or copper bands. It is necessary that deep-sea cables should be as light and at the same time as durable as possible. At first heavy iron sheathing was used, but it was apt to break in deep water, and therefore the wires were substituted. Though cables must be made stronger for deep-sea water use, because of the pressure upon them, in the shallower water near the coast they are more liable to injury from icebergs, the anchors of vessels, and the attacks of sea animals. For this reason the shore ends are provided with a heavier armor than that used for the line farther out.

#### STERLING MONEY—PENNY AND PENCE.

CHICAGO.  
Give derivation and meaning of the word sterling, as applied to money. What is the etymology and original meaning of penny?  
WHITE L.

*Answer.*—It is said that in the time of Richard Cœur de Lion money coined in the eastern parts of Germany came into special request in England on account of its purity, and was called Easterling money, as all the inhabitants of those parts were called Easterlings. King Edward I. established a certain standard for the silver coin of England, but no gold was coined until the reign of Edward III., who, in the year 1329, caused several pieces to be coined called Florentines because they were coined by Florentines. From the name of the purer coinage, called Easterling money, came the term sterling, as expressive of a standard purity. The historian Camden says that men were sent for from the Easterling country, in the reign of King John, to instruct the English in coining money, and he derives the word sterling directly from this circumstance. Others, however, take the word from starling, or little star, and say that it is in allusion to a star impressed on the



coin. Others refer it to Stirling Castle in Scotland, where money was coined in the reign of Edward I. But the weight of authority is with the "Easterling" origin. As to penny, the dictionary derives it directly, and probably correctly, from penig, the Anglo-Saxon name for a small coin. Other north of Europe languages have similar words with like meaning, as the German pfennig. The Danish word penge, meaning money, was almost identical with their word for cattle, pointing to the early time when cattle formed the principal medium of exchange among the common people. But there is also a story that the word came from the name of a member of the City Council of Dantzic, Germany, in medieval times—one Thomas Penny. It was said that he obtained a contract from the government for the coining of a large amount of copper coin, which was popularly known as Penny's money. It was also said that he was found to be cheating the city government, whether in the matter of coinage or other contracts history does not say, and that he was therefore incontinently pitched through the window of the council room into the street. He was injured by the fall, and became a cripple, and, having lost all his property because of his dishonesty, was obliged to stand on the street corners and beg charity of the passers-by. The popular nickname of the coppers thrown him then came to have a double significance. But we must conclude that, even if this story is true, the connection through it of the name penny and the copper coin is a mere coincidence and does not interfere with the etymological derivation of the word.

#### LETTING THE CAT OUT OF THE BAG.

What is the origin of the saying, to "let the cat out of the bag?"

SPARR. Fla.  
L. S. EASTMAN.

*Answer.*—It is said to have once been a favorite trick among country-folk in England to substitute a cat for one of the young pigs when the latter were carried in bags to market. These bags, in old phraseology, were known as pokes. If any greenhorn was foolish enough to buy "a pig in a poke"—that is, to purchase the animal without looking at it—the trick was successful, but if he opened the sack to satisfy himself concerning the value of his desired purchase, pussy would be sure to jump out. The cat was let out of the bag, and the trick was disclosed.

#### THE PARIS COMMUNE.

Give an account of the French Commune and what it accomplished.

WATERTOWN, Dak.  
M. HUDSON.

*Answer.*—The Paris Commune was the name given to a revolutionary committee appointed in July, 1789, by the Parisian electors. A decree of the Constituent Assembly, May 21, 1790, appointed a municipal council, and other officers for the government of the city. The following year Petion, Robespierre, Danton and others of the Terrorists had secured offices in the city government, and henceforth the council acted with the Terrorists. On the night of Aug. 10, 1792, they established themselves as the insurrectionary commune, declared all other authorities suspended, and henceforth originated the excessive

cruelties of the Reign of Terror. The council was overthrown when Robespierre fell, and the very name was suppressed under the constitution of the year III. But the Paris Commune most generally known by this name, was an organized band of socialists connected with the International Association, who attempted to establish a revolutionary government in Paris in 1871. The revolt began March 18, 1871, a few days after the evacuation of the German troops that had taken it after a long siege. The object of the revolt was the overthrow of the Versailles Government, which had been established in September, 1870, as this, though republican in form, was not sufficiently radical. The principles and objects of the revolutionists have been little understood, but the following sentences, uttered by one of the communists themselves, may be taken as fairly defining them; "Their philosophy is atheism, materialism, and negation of all religion; their political programme is absolute individual liberty by means of the suppression of government, and the division of nationalities into communes more or less federated; their political economy consists essentially in the disposssession, with compensation, of the present holders of capital, and in assignment of the coin, land, etc., to associations of workmen." The National Guard of Paris had been allowed by the Germans to retain their arms for the purpose of maintaining order in the city, and might have checked the revolt in its very beginning, but it was a band of militia, many of its members workmen and themselves members of the International Association, and therefore not only made no resistance to the revolt, but shared in it. The communists thus soon became absolute masters of Paris, and convicts released from the prisons and foreign refugees joined them in large numbers. The more intelligent and honest among their leaders were soon discarded, and desperadoes and outlaws gained complete control. On the 26th of March an election was held for members of the commune. Only 180,000 votes were cast, as the friends of order either thought it useless or feared to vote, and the result was the triumph of the insurgents. The government at Versailles now sent troops to suppress the insurrection. An army of insurgents sent to attack Versailles were repulsed at Meudon. The army of the republic, under command of Marshal MacMahon, now began the siege of Paris. The commune was torn with dissensions, which greatly weakened its power of resistance. April 5 they arrested the bishop of Paris and other prominent citizens and imprisoned them as hostages. They manned the forts outside the city to resist MacMahon's advance, but one by one these outposts were taken. May 22 the besieging army, 90,000 strong, entered the gates of Paris, and inclosed the insurgents in a semicircle, but the latter continued to fight for five days behind barricades, and revenged themselves for their defeat by atrocious acts of cruelty and vandalism. They set fire to the public buildings and endeavored to destroy the ancient monuments and treasures of art. Among the fine

buildings which they destroyed were the Tuilleries, the Palais de Justice, the Palais Royal, and the Hotel de Ville. The Louvre Gallery was partly burned; the column Vendome, raised in honor of Napoleon, had been torn down May 16. The communists seemed to be possessed with a very frenzy of hatred against the government and the party of order. They shot Darboy, the Archbishop of Paris, Boujeau, President of the Court of Cassation, and others whom they held as hostages. They ignited petroleum, gunpowder, and other explosive materials in many places, wantonly destroying property and human life. At last, May 27, the contest ended; 25,000 of the communists were taken prisoners, some of whom were put to death, while a large number were banished.

#### HISTORY OF THE UNITED STATES CONSTITUTION

BROOKSTON, Ind.  
Give a history of the formation of the Constitution of the United States, with the date when each of the original States ratified it. F. E. LISTER.

*Answer.*—The first suggestion of a convention of the States to remedy the evils of the existing government was made by Alexander Hamilton, in a private letter written in 1780. The Articles of Confederation, adopted in 1777, were very defective, in that though certain important powers were given to Congress, others were withheld, making the granted powers altogether ineffective. Thus the government might contract debts, but had no means wherewith to pay them. It could raise armies, but could not pay its soldiers, or supply them with food and clothing, unless the States chose to vote the money needed. It might make laws and negotiate treaties, but had no power to enforce obedience to these upon any State. In fine, the government under the confederation was a mere shadow of a government, without a particle of the power necessary to a government's actual existence. The absence of all coercive power was most directly felt in the administration of the financial affairs of the Nation. Though Congress made requisitions for money, the States disregarded them at will, and in consequence the United States Treasury was always empty, the credit of the government was gone, even the interest on the public debt had been left unpaid, and bills of credit had sunk to so low a value that they were virtually repudiated. This state of things becoming intolerable, even the States demanded that a convention should be called to consider how it could be remedied. A resolution was passed by the Virginia Legislature in January, 1787, appointing commissioners to meet delegates from the other States at Annapolis to consider the trade of the United States and its proper regulation. Five States sent delegates to the meeting, four others appointed delegates who did not attend, and the other four made no appointments. Representing but a minority of the States, the delegates could do nothing, and merely reported that in the defective condition of the General Government there could be no regulation of trade, and recommended another convention for the single object of devising improvements in the government. Congress called the

proposed convention, which met May 25, delegates from seven States—New York, New Jersey, Pennsylvania, Virginia, North Carolina, and South Carolina—being then present. Representatives from Massachusetts and Connecticut arrived May 28, from Georgia, May 31; from Maryland, June 2; but New Hampshire had no delegate present until July 23, and Rhode Island was not represented at all during the convention. There were fifty-five delegates in all present during the four months that the convention was in session, and it may be said of them that they represented the conservative intelligence of the country very exactly. The debates were secret, and each State was entitled to one vote. The difficulties before the convention were, first, the harmonizing of the opposed wishes of the large and the small States, and, second, bringing about an agreement between the two sections, North and South, upon the subject of the slave trade. It should be remembered that at this time public opinion in but two Northern States—Massachusetts and New Hampshire—had advanced sufficiently to decree the abolition of slavery, and even the matter of the importation of slaves was rather a politic than a moral question. Though a number of the Northern members were strongly opposed to this traffic, they preferred to do violence to their convictions rather than risk the possibility of forming the States into an united nation. The first question that came up was whether the new government should be one in which each State's influence should be proportioned to its population, or one in which each State, however small, should have an influence equal to that of any other State, as under the Confederacy. The large States naturally preferred the former and the small States the latter system. Edmund Randolph, of Virginia, May 29, brought forward a plan of a constitution, which formulated the demands of the large State majority. By it Congress was to consist of two branches, the representation in both based upon population, the lower house to be chosen by the people, the upper house elected by the lower house, and the President by the two houses together. June 15, the plan of the smaller States was brought forward by Mr. Patterson, of New Jersey. It was simply an amending of the articles of confederation, retaining a Congress of one House, and the equal vote of each State in Congress. The first compromise was to give the States an equal representation in the Senate and a representation based on population in the House. The next matter to be settled was that of the basis of representation. Now the Southern States opposed the enumeration of the slaves as a basis for taxation, but desired it as a basis for representation, so the matter was compromised by providing that three-fifths of all slaves were to be included in the population as estimated for taxation and representation, and that all money bills were to originate in the lower House of Congress, it being supposed that the larger States, in which the important slaveholding States of Virginia, North Carolina, and



Georgia were then included, would control that branch of the Legislature. There was much debate over these compromises, but they were at last, with more or less reluctance, accepted. As one of the annoyances of the confederation was that the commerce of the country was under the control of thirteen separate States, any one of which might levy any duties it saw fit, on goods from the other States, the opinion of the convention was nearly unanimous in favor of giving to the central government the power to regulate the commerce of the several States, but the adoption of this provision brought about a stormy debate on the slave trade, in which Georgia, South Carolina, and North Carolina positively refused to enter the new union unless its Congress should be forbidden to prohibit this traffic, or to tax it at a higher rate than trade in other imports. The question was referred to a select committee which compromised the difficulty by granting a twenty years' continuance of the slave trade, and later by adding the fugitive slave clause to article 6. Sept. 12 the amended draft of the constitution was given to a committee of five, Gouverneur Morris, of Pennsylvania; William S. Johnson, of Connecticut; Alexander Hamilton, of New York; James Madison, of Virginia, and Rufus King, of Massachusetts, for revision of style and arrangement. In the committee, by common consent, the work was intrusted mainly to Morris, who wrote out the entire document. It was reported to the convention Sept. 13, and a few minor changes were made. It was proposed to arrange for a new convention to consider such amendments as might be proposed by the States, but this proposition was voted down, thus forcing upon the States the necessity of unconditionally accepting or rejecting the constitution as it came from the convention's hands. In consequence of this action sixteen of the fifty-five delegates present refused to sign the completed constitution, in spite of an urgent appeal from Washington, and a suggestion made by Benjamin Franklin, which was carried out, that the constitution should be signed only as "Done in convention by the unanimous consent of the States," without expressing any approval. The constitution, the resolutions of the convention, and a letter from Washington, its President, were transmitted to the Continental Congress, then in session, and that body, Sept. 28, 1787, by resolution unanimously passed, directed copies of these papers to be sent to the State Legislatures, to be submitted by them to State conventions for approval or rejection. The ratifications as made by these conventions were as follows: Delaware, Dec. 7, 1787, unanimously; Pennsylvania, Dec. 12, 46 to 23; New Jersey, Dec. 18, unanimously; Georgia, Jan. 2, 1788, unanimously; Connecticut, Jan. 9, 128 to 40; Massachusetts, Feb. 7, 187 to 168; Maryland, April 28, 63 to 12; South Carolina, May 23, 149 to 73; New Hampshire, June 21, 57 to 46; Virginia, June 26, 89 to 79; New York, July 26, 31 to 27, on final vote. North Carolina, 184 to 84, refused to ratify without a bill of rights and amendments. In February, 1768, the Rhode

Island Legislature refused to call a convention, and referred the Constitution to the town meetings, where it was rejected in March by 2,708 votes to 232. North Carolina subsequently reconsidered her action and ratified the Constitution, Nov. 21, 1789, and Rhode Island also agreed to it May 29, 1790. But as it had been provided that the consent of nine States was sufficient for the adoption of the Constitution, the organization of the new government had gone on. The first electoral college meeting on the first Wednesday in January, 1789.

#### EARLY IRISH HISTORY.

AUGUSTA, M. T.  
Give a brief synopsis of the history of Ireland between the fourth and eleventh centuries, with special reference to its system of education at that time.

GEORGE JOHNSTON.

*Answer.*—The beginnings of Irish history are wrapped in the mists of tradition. It is known that the people were of Celtic origin, that their society was based on the tribal system, that their religion was that of the Druids. And from a few fragments of record that have come down to us we know something of the customs of this ancient people. There are many legends told by bardic historians of later times concerning the early kings of Ireland, but the part taken in these by giants and necromancers detracts seriously from their verisimilitude, and we must admit that authentic Irish history begins with the fifth century, and with the introduction of Christianity into the country by St. Patrick. The work done by this godly bishop was of the greatest value to the country, for he established churches, monasteries, and schools. His plan was first to convert the chief of the tribe, after which the tribal instincts of the people made thousands of converts among them to the religion of their lord. St. Patrick passed from place to place, seizing every opportunity of a local gathering of the people to preach to them, and, securing his converts, to baptize them immediately. He then superintended the erection of rude places of worship that the adherents of the new faith might have places to gather and strengthen one another by counsel. In time he educated priests from among the people and established them where he could in groups, thus laying the foundation of a series of monasteries, or monastic schools, which, when St. Patrick died, after a sixty years' ministry, formed a perfect network over the land. After Christianity had become well established in the country, we are assured that these schools of learning became even more famous than those on the continent, and that foreign ecclesiastics visited them in large numbers for the sake of their teaching and libraries, and to witness the peace and prosperity of the church in Ireland. These schools also sent out some of the most famous bishops and scholars of the middle ages, and their missionaries went to all parts of the continent. But meanwhile, and for centuries later, schools for the common people were unknown. All the learning of the time was confined to the priests and schools of the church. The civil history of Ireland during this period, while the church was growing in wealth and influence, was made up of

quarrels. The tribal system died out, and gave place to the absolute sovereignty of the chiefs, and the heads of the larger tribes preyed without scruple upon the substance of the smaller tribes. About the end of the eighth century the pirate Danes came down on the country "like the wolf on the fold." They burned and plundered and massacred and swept over the entire country like a whirlwind, forcing all the chiefs of clans to pay them heavy tributes or to submit to be sold into slavery, or to be put to death with hideous tortures. They particularly expended their fury on the churches, burning and plundering the monasteries, and driving the monks and scholars into the mountains. The need to meet a common enemy forced the Irish clans to unite, and the pirates were attacked and driven from the interior of the country, though they still held posts and colonies at the mouths of the principal rivers. At last, in the tenth century, under the leadership of King Brian, the Danes were driven from the land. Brian now united the whole country under one government, in spite of much opposition from the other chiefs. But he was an old man when this was accomplished, and soon after, when a rebellion broke out, he was killed. For the next hundred years there is little to record but a constant struggle, with varying success, of ambitious princes for the sovereignty, while the church, which had regained a large part of her ancient wealth and influence, strove in vain for the restoration of peace and order. In 1168 the Anglo-Norman settlement began, which led to the final subjugation of the country to English rule.

#### THE SCHLESWIG-HOLSTEIN WAR.

Give a brief sketch of the war between Germany and Denmark in 1864. How did the trouble arise, and how did it end?  
 ELYSBURG, Pa.  
 A. C. GRIMM.

*Answer.*—The country included in the duchies of Schleswig and Holstein, in northwestern Germany, had been attached to Denmark since the fifteenth century, but the people of the duchies always desired the independence that their neighbors, the German states, enjoyed. In 1831 the duchies secured the right of holding constituent assemblies for the control of their affairs, but the extent of the independence thus gained was a source of constant dispute with the Danish Government. Holstein, relying upon her proximity to the powerful state of Prussia, joined the German confederation, and Schleswig earnestly desired to do likewise. In 1848 the assemblies of the two duchies joined and voted to annex themselves to the German Confederation, and then formed a provisional government, choosing the Duke of Augustenburg as its head. The King of Denmark treated these acts as rebellion, and a war followed, in which, though the duchies were aided by Prussia, and later by German troops, Denmark was victorious. Treaties were formed by Denmark with Prussia and Germany, but though foreign aid was thus denied them the Schleswig-Holsteiners continued to fight on their own account until they were checked by foreign intervention. The treaty of London, in 1852, signed by England, Russia, Austria, France

Prussia, and Sweden, set aside entirely the claims of the Duke of Augustenburg, whom the duchies preferred as a ruler, confirmed the succession of the Danish crown to Christian of Glücksburg should King Frederick die without heirs, established Schleswig as a part of Denmark, and allowed Holstein to remain attached to the German Confederation. This conclusion was very unsatisfactory to Germany as well as to the Schleswig-Holsteiners. In 1863 the Germans sent an army of occupation into the duchies. While Denmark was still uncertain whether to resist this aggression or to yield to it King Frederick died, and the crown passed to Christian of Glücksburg. As King Christian's daughter, Alexandra, had been married a few months before to the Prince of Wales, the Danish Government was encouraged by the hope of support from England to declare war against Germany. The German army declared the Duke of Augustenburg King of Schleswig-Holstein. Austria and Prussia, both determined to have a decisive voice in the settlement of so important a question, sent a combined force to act with the German troops. Regardless of the protests of England against their aggression, the united armies marched through Holstein into Schleswig, which they determined to occupy until King Christian agreed to a satisfactory settlement. The Danes attempted to drive back the invading forces, but were overwhelmed by numbers. Their fortifications at Dannewecke were surrendered, their obstinate defense of Düppel only ended in defeat, and, April 28, they surrendered Fredericia and its defenses. An armistice was now declared while negotiations were carried on in London. Germany demanded the complete severance of the duchies from Denmark under the Duke of Augustenburg. Austria and Prussia, however, would allow the subordination to the Danish crown to continue if the duchies were granted a separate constitution. England proposed the division of Schleswig into a Danish half and a German half. This was accepted, but as the dividing line could not be agreed upon, war began again, and the Austro-Prussian army occupied the whole peninsula of Jutland. King Christian, unable to resist any longer and bitterly disappointed at the failure of English support, consented to terms of peace which were finally arranged in the treaty of Vienna Oct. 30, 1864. By this treaty the duchies were simply ceded to Austria and Prussia. These two powers undertook to carry on the government in partnership, but became involved in endless difficulties with each other and with the people of the duchies. Besides, the German Confederation, though it had withdrawn its forces, still evinced great dissatisfaction with the state of affairs. Aug. 14, 1865, the treaty of Gastein, between Austria and Prussia, was framed, by which both powers retained the sovereignty of both duchies in common, but Austria assumed the provisional administration of Holstein, Prussia that of Schleswig. New disputes, however, immediately arose, as Austria desired to have the Duke of Augustenburg made crown prince of the united duchies, and Prussia objected strongly



to this. The matter was settled at last, by the brief and bloody Austro-Prussian war of 1866, otherwise known as the German-Italian war. In this conflict all the German states and Italy also were involved; it lasted one month and cost about \$100,000,000, and some 80,000 lives. At the peace of Prague, Aug. 23, 1866, by which it was concluded, Austria transferred her rights in Schleswig-Holstein to Prussia, with the reservation that the northern part of Schleswig should be reunited with Denmark, should the inhabitants vote for such a change. This question, however, was never submitted, and the provision was rescinded twelve years later. The territory of Schleswig-Holstein has since been definitely incorporated with Prussia. This war also caused the dissolution of the German Confederation or Staatenbund, and brought into existence the Bundestaat of the North German Confederation of which we have spoken elsewhere.

#### BOUNDARY BETWEEN MASSACHUSETTS AND CONNECTICUT.

CHICAGO.  
Why is the boundary-line between Massachusetts and Connecticut at Southwick so irregular?  
A. D. LINSTROME.

*Answer.*—Boundary disputes between Massachusetts and Connecticut began in the very earliest days of the colonial settlement. The boundaries indicated by the charters of the two colonies were indefinite, and neither would agree to surveys made by the other. The matter was referred to the English Government more than once, but was not attended to. At last, in 1713, commissioners were appointed from both colonies to survey the boundary-line and settle all disputed points. This agreement gave to Massachusetts jurisdiction over the border towns that she had hitherto claimed, though they were south of the colony line surveyed, and for this privilege of jurisdiction Massachusetts agreed to give Connecticut certain unimproved lands in Western Massachusetts and in New Hampshire, these lands to be sold and the proceeds paid into the Connecticut treasury. These lands were sold in 1716 and the money given to Yale College, but subsequently the border towns objected to the jurisdiction of Massachusetts, and transferred themselves to Connecticut. By the original survey the boundary line of Southwick extended some distance south of that of adjacent towns. In 1774 Connecticut attached part of this town, and ten years later a committee was appointed to lay out the boundary again at this point; but each colony was so tenacious of every inch of territory that it took twenty years more to settle this trifling difference. In 1793 both States appointed commissioners to examine the boundary of Southwick and other towns west to the New York line, and four years later a joint commission was appointed to examine the line east of the Connecticut River. They reported that the line was nearly all correct, except a tract of about two and one-half miles square at Southwick, which Massachusetts thought she should have to compensate her for the towns she had lost. Connecticut, in 1801, refused to grant this. In

1803 Massachusetts professed a willingness to compromise the matter. So, in 1804, it was arranged that Connecticut should keep a part of Southwick, and Massachusetts should retain the land west of the pond in that township, the same indentation into Connecticut which she holds to-day, causing the irregularity in the boundary line on the maps. Other points concerning this much-contested boundary were all finally settled in 1826, since which time no controversy between these two States has existed.

#### CROTON BUGS.

AURORA, Ill.  
Give a descriptive account of croton bugs, and tell how to exterminate them.  
A. D. B.

*Answer.*—The scientific name of this insect is *Blatta Germanica*. It is of the same family as the cockroach, but differs from that most pestiferous insect in being smaller, of lighter color, and in not emitting a foul smelling liquid when alarmed. It also seems to have much less liking for food. The cockroaches will take possession of a pantry and get into every kind of food left uncovered, especially sweet and sirupy food, but the croton bug prefers the proximity of the sink, and seems to have no particular liking for any food but flour, bread, or other starchy substances. The insect has been known to naturalists in England for some time, and they say it was first brought to that country by Australian vessels. The insect is now identified with the field roach, which in warm countries lives out of doors, in moist wooded places. In northern latitudes, however, it seeks a home indoors, in kitchens and libraries, and though the true field roach is a yellow insect, the branch of the family that has taken up domestic life has assumed a reddish-brown hue. The insect first appeared in New York City shortly after the building of the Croton water-works, and from its fondness for the neighborhood of the water-pipes, it was believed to have come with the water. It is now a well-known pest in all American cities where water-works are in existence, the water-pipes giving the bugs convenient means of access to all houses and parts of houses, and their shy habits and enormous powers of reproduction making their extermination a thing impossible. The bug has a flat and oval body, with thorax shield-shaped and antennæ long and thread-like. It is amazingly prolific, as we have said. Its eggs are laid in a sac, about one-fourth of an inch long and one-eighth wide, in which thirty small eggs are packed closely like peas in a pod. The female deposits this in a warm place, in a crack of a board usually, where it is secure from molestation. At the end of twenty-four or thirty hours she tears the sac open with her feelers, and loosens the membranous covering of the egg, when the young come forth fully formed. Owing to the shyness of this insect naturalists have found difficulty in studying its habits, and housewives find its destruction demands constant research and vigilance. Every crack in the neighborhood of stove or sink gives it opportunity to flee from the destructive scrubbing-brush and a secure refuge in which to rear its numerous progeny. It has a

decided fondness for libraries, where books and papers give abundant opportunity to its hiding instinct, and where it is said to do much damage to cloth-bound volumes by eating the starchy sizing in their covers. Leather-bound books it will not touch. As to means of extermination, the powder of the pyrethrum, also called Persian insect powder, blown into the haunts and favorite crevices of the insect with a bellows or powder-gun, is probably the most effectual means. It is not poisonous, it simply strangles the insect. An old roach may need two or three doses of the powder, but the first whiff of it is instant death to the young ones. Borax powder and sugar is also said to destroy these bugs, and another remedy against them, recently announced, is a paste made of phosphorus and starch. They are said to be so fond of this that they will not only devour every bit they can find, but will tear up the bodies of others to secure the share already swallowed, and thus exterminate themselves.

#### THE PROHIBITION PARTY.

URBANA, ILL.

Give a brief history of the Prohibition party. When and by whom was it organized? How many National conventions has the party had, and who were their candidates?

J. C. GARMAN.

*Answer.*—The Prohibition party has existed as a local or State organization for many years. Local temperance sentiment was first organized into a State party in Maine in 1846, through the efforts of Neal Dow. It won its first real triumphs in the passage of the Maine liquor law, in 1851. The party has existed as an important factor in many local and State elections since that time, but has only recently played any part in National elections. Its first National convention was held Feb. 22, 1872, at Columbus, Ohio. There were present 194 delegates from nine States; the President of the meeting was Samuel Chase, of Ohio. A long platform was adopted, after which the names of James Black, of Pennsylvania, for President, and John Russell, of Michigan, for Vice President, were brought forward and were accepted by acclamation. This ticket cut such a small figure in the campaign that we do not find it even mentioned in tables of election returns. It probably, however, polled a few thousand votes. In 1876 this party again held the first convention of the annual series. It met in Cleveland, Ohio, May 17, and with the usual extended platform, providing for the extinction of every form of vice, petty or great, nominated for President, Green Clay Smith, of Kentucky, and for Vice President, G. T. Stewart, of Ohio. This ticket received 9,522 on the popular vote. In 1880 the Prohibitionists again held a convention at Cleveland, Ohio, June 17. Like the previous conventions of the party it attracted so little attention that the leading newspapers of the country did not take the trouble to publish the proceedings. Twelve States were represented by 142 delegates. A platform very similar to that of 1876 was adopted, and General Neal Dow, of Maine, was nominated for President, and A. W. Thompson, of Ohio, for Vice President. This ticket received 10,305 votes at the general election. In 1884 the Prohibition

party held its National convention at Pittsburgh July 23. The usual comprehensive platform was adopted, and the meeting, partly because the party which it represented had become largely augmented in numbers and partly through the efforts of the W. C. T. U. section, was extensively noticed in reports in the leading newspapers. It nominated John P. St. John, of Kansas, for President, and William Daniel, of Maryland, for Vice President. The party received at the November election 151,809 popular votes.

#### THE PHASES OF THE MOON.

DICKERSON, ILL.

Explain the phases of the moon. Are they caused by the shadow of the earth?

B. LEWIS.

*Answer.*—The moon's phases depend upon the position of the moon relative to the earth and the sun. The moon, when not eclipsed, always presents to the sun an illuminated hemisphere, but the whole of this can only be seen when the sun, earth, and moon are in a straight line and the earth is between the sun and moon. When the three bodies are in a straight line and the moon is between the earth and the sun, no part of her illuminated disk can be seen by us. In the first case we have "the full of the moon;" in the latter case "the dark of the moon." A few hours after the total obscuration, the moon appears a little to the east of the sun as a thin crescent, with horns pointing to the east, and as she increases her angular distance from the sun the crescent of light becomes broader, and when she is 90 degrees (on the celestial circle) from the sun she shows a semi-circle of light, and is said to have completed her first quarter. During her second quarter the illuminated part of the moon turned to us increases, and when the 180th degree of the circle is reached, we see the entire disk, and say the moon is "full." From this point she continues to approach the sun, midway showing a semi-circle again, then a smaller and smaller crescent—its horns now turned toward the west—till it reaches the position of new moon and disappears from our view. We see, therefore, that a change of relative position is the sole cause of the moon's phases, and not the shadow of the earth. When the moon comes within this shadow she is eclipsed. It is plain that in the orbits of the earth and moon were in the same plane there would be a total eclipse of the moon at the middle of each month, or at every full moon. The inclination of the orbits, however, prevents this.

#### THE CRIPPLE CHICKAMAUGA.

ALLISONIA, TENN.

Who was the cripple "Chickamauga," murdered by Wirz? Please give the circumstances of his death.

W. G.

*Answer.*—We take the following facts from Spencer's "Story of Andersonville:" A certain private of the Eighth Missouri Regiment had lost a leg at Chickamauga, and thus from his frequent allusion to the battle came to be called by its name. He was very dull-witted, and the soldiers also called him "Muttonhead," and amused themselves by constantly worrying and badgering him. One day the poor fellow, after having been subjected to an unmerciful teasing, asked



the sentinel to call Captain Wirz. When Wirz came, Chickamauga, in the most innocent manner possible, asked to be allowed to go outside of the prison on parole. Wirz was furious at the request and cursed the man savagely, telling him that he would have him shot if he ever dared to ask such a thing again. In a whining, supplicatory tone the cripple begged to be let out, and said that he would rather be shot than stay there and have the boys plague him to death. For reply Wirz, turning to the sentinel, shouted, "Shoot the one-legged Yankee devil!" The man fired, a well-aimed ball shattered the head of Chickamauga, and in two minutes the cripple was dead. His useless crutches were seized by his companions for fuel, and the poor imbecile, now beyond the reach of the malicious mischief of his friends, as well as the cruelty of his foes, was tossed into a wagon and hurried away as carrion to the quicklime and the trench.

#### THE GREGORIAN CALENDAR.

BERWYN, Pa.  
Please explain why the year 1900 will not be a leap year, though it can be divided by four without a remainder.

J. S. W.

*Answer.*—The calendar as established by the Emperor Julius Caesar, giving 366 days to every fourth year, was not altogether correct. Its error consisted in estimating the length of the year as exactly 365 $\frac{1}{4}$  days, which is about eleven minutes too much. This error in sixteen centuries amounted to ten days. Pope Gregory, therefore, in 1582 changed the calendar to eliminate this error. He dropped out ten days, ordering that Oct. 5 of that year should be reckoned Oct. 15, and provided that in future no centurial years should be leap years unless they are multiples of 400. This arrangement of the calendar is so nearly correct that by it there is only a difference of about 22 $\frac{1}{2}$  seconds between the average civil year and the true solar year, an inaccuracy which will only amount to the difference of a day in 3,866 years.

#### A GRASS WIDOW.

CHANDLER, Ind.  
What does the expression grass-widow mean, and where does it come from?

W. J. D.

*Answer.*—The term grass-widow as anciently used in England meant a woman who was a mother, though not a wife. The expression was taken from a similar phrase in the French, and meant a widow by grace or courtesy. In the United States, however, the term is applied to a woman who, though lawfully wedded, is living apart from her husband. A somewhat different idea has been sometimes attached to the term in this country, as when the California excitement prevailed, and a man often broke up his home, put his wife to board with friends, and hurried away to the gold regions. In this case the man was said to have "turned his wife to grass," as, when a horse is not wanted, it is turned out to graze.

#### THE WARS OF THE ROSES.

UTE CREEK, N. M.  
Give an account of the War of the Roses in England. Why was it so called?

J. H. APPELEGATE.

*Answer.*—The "Wars of the Roses" was the name given to a civil war in England during the fifteenth century, which may be said to have begun with the first battle of St. Albans in 1455,

and to have ended with the battle of Bosworth Field in 1485, though during this period of thirty years there were long intervals of peace. The origin of the name of these wars was the badges worn by the representatives of the rival houses of York and Lancaster, the Yorks wearing the white rose and the Lancastrians the red rose. The house of York was descended from the second son of Edward III., and therefore had a better claim to the throne than the house of Lancaster, which was descended from the fourth son of the same king. But Henry, Duke of Lancaster, had arbitrarily seized the crown in 1399, not only dethroning the rightful king, Richard II., but displacing all claimants whose rights were paramount to his own. The usurpation was submitted to, for the sake of peace, and had the descendants of Henry IV. continued to show the ability displayed by that monarch and his son Henry V., the Lancastrian branch might have held power indefinitely. His grandson, however, Henry VI., proved to be so feeble in mind and character that abundant opportunity was given to the powerful nobles to plot his downfall. Richard, Duke of York, the presumptive heir to the throne, as the King for some years after his marriage remained childless, had united himself by marriage with the Nevilles, one of the most powerful families of nobles in the kingdom, and had won to his side many other families of influence. When, therefore, his expected succession was cut off by the birth of a young prince in 1453, the disaffected nobles thought that the time had come to combine for a change of dynasty. King Henry had been reduced by illness to a condition of imbecility, and York was made protector of the kingdom, but the King upon his recovery resumed power, and so gave excuse by acts of tyranny for a revolt of the nobles. The first battle was fought at St. Albans, May 22, 1455, and was won by the Yorkists or party of the white rose. The King was now in their power, and York was made protector again. The Queen would not submit to this compromise, and herself raised an army to defend the claims of her infant son, and war began again in 1459. After the battle of Northampton, July 10, 1460, it was arranged that Henry should remain king for life, but that York should succeed him. Queen Margaret resisted, and Dec. 30, following, defeated the Yorkists at Wakefield. Here the Duke of York and many of his supporters were killed. The Yorkist claim now passed to the Duke's eldest son, Edward, a youth of only 19 years of age, but possessed of remarkable intellectual powers. He overcame Lancastrian troops in two minor battles, then went to London, where he was proclaimed king March 4, 1461. March 29 the battle of Towton—one of the most bloody conflicts ever fought on English soil—resulted in a victory for York. Two years later Queen Margaret renewed the contest with aid from Scotland and France, but was beaten at Hexham, May 15, 1464, and poor old King Henry fell into his rival's hands and was imprisoned in the tower. The Yorkists were now established in power, but they quarreled among themselves; the powerful Neville family

headed by the Earl of Warwick, rebelled and, fleeing to France, joined the party of Queen Margaret. Invading England with an army they inaugurated another bloody War of the Roses. At the battle of Barnet, however, April 14, 1471, the Lancastrians were defeated and Warwick was killed. At Tewksbury, May 4, Queen Margaret and her young son were taken prisoners; the Prince was killed and the Queen imprisoned in the tower, where the poor old king died soon after, it was thought by violence. The White Roses now held comparatively undisturbed possession of power for twelve years. King Edward, dying in 1483, left two young sons, both of whom their uncle, the Duke of Gloucester, had murdered, in order that he might himself seize and hold the regal power. (For account of this shocking crime, see *Our Curiosity Shop* book for 1885). Richard's many evil deeds so roused general indignation that a party was formed for the purpose of deposing him and putting the Earl of Richmond, who was the great-great-grandson of the first Duke of Lancaster, on the throne. The first effort of the conspirators failed, and one of their principal leaders, the Duke of Buckingham, was beheaded. But in 1485 Richmond had raised a small army, and, meeting Richard's troops on Bosworth field, defeated them, the King falling in the fight. Richmond, who was crowned Henry VII. on the battlefield, with the crown that Richard had worn in the action, soon after married Elizabeth, eldest daughter of the late King Edward, and thus the rival houses of York and Lancaster were united, and the wars of the Roses forever ended.

#### KENTUCKY IN 1861.

OAK VALLEY, Kan.

Did the Governor of Kentucky issue a proclamation during the war declaring Kentucky neutral and warning both armies to keep off of her soil? Give facts concerning it and action of the Kentucky Legislature.

SUBSCRIBER.

*Answer.*—The sentiment of Kentucky on the breaking out of the war was strongly opposed to taking any part in the struggle. A convention of the Union party of the State was held in January, 1861, which passed resolutions declaring their adherence to the Union, but affirming also their positive repugnance to the coercion of the States by the Federal Government. The Governor, in his message to the Legislature, expressed similar disapproval of the use of force against the South, and the Assembly reiterated this sentiment in more than one resolution. When the attack upon Fort Sumter came, Kentucky refused to take part with either side, and in answer to the requisition of the Secretary of War for troops, Governor Magoffin replied that Kentucky would "furnish no troops for the wicked purpose of subduing her sister Southern States." The State Union committee issued an address to the people declaring it to be the duty of the State to maintain neutrality and take no part with either side, and advised the people of the State to arm themselves against the invasion of hostile armies. May 4 an election was held for delegates to a border state convention, and those delegates known to be in favor of the Union were elected by a large majority; this convention met at

Frankfort May 27. Only Missouri and Kentucky were represented, and no attempt was made to solve the complicated problem of coercion, but the delegates generally concurred in the issue of an address to the people of Kentucky declaring that the State would remain loyal to the government and the Constitution, and refuse alliance with any who would destroy the Union. This address, though altogether unofficial, had no doubt much influence with the people. Meanwhile, the Legislature, in May, passed resolutions declaring that Kentucky should maintain strict neutrality, and approving of the refusal of the Governor to furnish troops to the Federal Government, and soon after Governor Magoffin issued his proclamation warning the troops of both the United States and the Confederacy not to make any movement, or occupy any post on Kentucky soil, until authorized by the State authorities. However, in spite of this neutral stand, volunteers from the State were rapidly enlisting in both armies. Soon after, an encampment of Federal troops was formed in Garrard County. The Governor addressed a letter to its commander, General Nelson, asking the object of the establishment of the camp. In reply General Nelson said that the troops had been called together at the request of Union men of Kentucky, for no aggressive purpose, but simply to defend the State in case of need. The Governor then sent commissioners to President Lincoln to insist upon the neutrality of the State, and in a letter urged the removal of the military force from within its borders. The people of the State, he said, were at peace and wished to remain thus, and did not wish to supply a battle-field for outside contending armies. To this President Lincoln replied that he had acted upon the solicitation of many Kentuckians in placing troops in the State, and that as he did not think the general desire of the people of Kentucky demanded it, he must respectfully decline to remove the troops. He added the following well-merited reproof to the Governor's over-solicitude for the tranquility of his State: "I most cordially sympathize with your Excellency in the wish to preserve the peace of my own native State, Kentucky. It is with regret that I search, and can not find, in your not very short letter, any declaration or intimation that you entertain any desire for the preservation of the Federal Union." Governor Magoffin also addressed a letter to the President of the Confederate States, demanding due respect for Kentucky's neutral position, to which Mr. Davis replied that the Confederate Government would continue to respect the neutrality of Kentucky so long as the people of that State were able to maintain it, and insinuated that as Kentucky had not been able to keep out the Federal army she must not expect to exclude the opposing troops. The Governor was now at his wits' end. In his message to the Legislature Sept. 5, he reasserted the right of the State to a neutral position, since she had no part in the fostering of a sectional party at the North and did not sanction the secession of the South. He recommended the



necessary steps to properly defend the State, by troops raised under sanction of its laws, and to remove from it all military bodies not acting under State authority. On the same day the Legislature was notified that Confederate troops had invaded the State and fortified positions at Hickman and Chalk Bluffs. Governor Magoffin demanded of Governor Harris, of Tennessee, what this invasion meant. Governor Harris disclaimed all knowledge of the affair. General Polk, commander of the invading Confederate force, in reply to a similar demand, said that he had occupied the points under discussion to prevent their probable occupation by Federal troops. The Confederate Government, when appealed to, offered the excuse of "military necessity," and General Polk soon after took possession of Columbus on a similar plea. But, in the meantime, the Federal forces, feeling a like pressure of "military necessity," had entered the State from the north, and the boasted neutrality of Kentucky came to an untimely end. Sept. 9 General Grant, with two regiments of infantry and one of light artillery, took possession of Paducah, Ky., and issued a proclamation declaring that he came solely for the purpose of defending the State from aggression. The Legislature was now strongly Union in sentiment, and Sept. 11 adopted a resolution directing the Governor to issue a proclamation ordering Confederate troops to evacuate Kentucky soil. It was understood that if this order was changed so as to demand the withdrawal of Federal troops also the Governor would concur in it, but the House refused to allow the proposed change and the Governor vetoed the resolution. It was again passed by both Houses by large majorities over the Governor's veto, and the proclamation was unwillingly issued. Further resolutions, declaring that the invasion of the "so-called Confederate States" must be expelled, calling Major Robert Anderson, of the United States Army, to take command of the State forces, and ordering the Governor to call out the State militia, were also vetoed by the Governor and promptly passed over his veto. Subsequently a bill was passed calling out 40,000 volunteers for service in defending the State and the requisite funds appropriated; and thus Kentucky was enlisted, heart and soul, in the struggle for the preservation of the Union.

## THE WALLS OF ATHENS.

Tell something of the plan of the city of Athens.  
What were called its long walls? CHICAGO. A. REDMOND.

*Answer.*—Athens, that is the district inside the fortifications of the city, consisted of three parts: 1. The Acropolis, or central hill, on which were the magnificent temples of the Erechtheum and the Parthenon, and which was surrounded by a wall. 2. The Asty, or upper town, as distinguished from the port towns, and therefore really including the Acropolis. 3. The port towns—Piræus, Munychia, and Phalerum. The Asty was surrounded by walls, and three similar walls, the two long walls and the Phaleric wall connected the Asty with the port towns. The wall around the Asty measured sixty stadia;

that around Piræus and Munychia the same; the length of each of the long walls was forty stadia, and of the Phaleric wall thirty-five stadia. The walls were probably between fifty and sixty feet in height. The long walls were 550 feet apart, and between them ran a carriage road to Piræus, and this is believed to have been lined with houses, so that the city was continued the whole distance.

## SAINT FRANCIS OF ASSISI.

VASA, Minn.  
Who was St. Francis of Assisi, and what did he do?  
J. A. EDQUIST.

*Answer.*—Francis of Assisi was the founder of the order of Franciscans in the Romish Church, and became canonized as a saint of that church. He was born in Assisi, in 1182, the son of a wealthy merchant, who had made his fortune in trade with France, and, therefore, called the child Francesco. He was a thoughtless, gay youth, and served as a soldier in a conflict with the troops of Perugia, in which he was taken prisoner, and was kept in captivity a year. During this time he formed the design of renouncing the world, and when again set free he renounced his inheritance, put on the garment of a laborer, and from that time to the close of his life—he was then 24 years old—gave himself up to works of piety and charity. He begged money for the repairs of the churches; washed the feet of beggars and lepers, and kissed their sores; clothed himself in a robe of coarse serge, sewed with pack-thread, and bound around his waist with a rope; he ate the meanest food, and only enough to support life; slept on the ground, using a stone for a pillow, and wept until he was almost blind. In turn, his exceeding humility won for him quite a degree of sympathy, and men desired to imitate him. In 1209 he drew up a set of monastic rules for his personal followers, which were approved by the Pope. Though the Pontiff wished him to take priest's orders he declined to do so, contenting himself with the humble position of a deacon. Yet he was a zealous missionary, and made long journeys in behalf of the church. His great desire was to die in the Holy Land, so he joined the Crusaders at Damietta in 1219. He arrived only to witness the defeat of the Christian army, but was gratified by being allowed to testify concerning Christ before the infidels. After his return his health gave way under his prolonged fasting and vigils, and he was not able to journey about, so he remained most of the time in seclusion at Alverno, where a convent had been built for the Franciscan brethren. In solitude he gave himself up more ardently to prayer and religious exercises, and his enthusiasm became rapture. He saw Christ in his visions, and one legend tells how the Savior touched his hands and his feet and his side, leaving thereon the marks as of wounds, which he bore ever after, and it was said that in moments of ecstasy blood used to ooze from these marks, or stigmata. St. Francis died Oct. 4, 1226, and was canonized as a saint two years later. Though there is much of invention and myth in the legends of St. Francis of Assisi, and his asceticism was most extreme,

there is no doubt that he was sincere in his love for his kind and in his self-abnegation. He was tender to all created things except himself, and was ever striving for peace and harmony among men. His character is used in literature as the type of the earnest toiler for the good of men, whose pity and tenderness are always ready for the needy and the suffering.

#### MOON HIGH OR LOW.

BRANDON, ILL.  
What causes the moon to run high or low? Does this have any effect on the weather? READER.

*Answer.*—The terms high and low applied to the moon's course have reference to its position toward the ecliptic, that is, the line of the earth's orbit in the heavens. The moon is never more than about 5 degrees from the ecliptic on either side. If it passes south of the ecliptic in the winter at the same time that the sun is south of the celestial equator, the altitude of the moon may be to observers in our latitude not more than  $21\frac{1}{2}$  degrees above the horizon, and if it runs north of the ecliptic in summer, when the sun is north of the equinoctial line, it may, to observers in the same latitude, seem to approach within  $11\frac{1}{2}$  degrees of the zenith. These alternations of position are referred to when it is said that the moon runs high or low. As they concern the relative positions of the sun and moon to our observation only, there is no possible ground for imagining that they have any effect on the weather.

#### TARGETS FOR RIFLE PRACTICE.

PERU, ILL.  
Please give some account of the targets used in rifle practice, especially describing those used at Creedmoor. READER.

*Answer.*—Targets are made of different material, iron, canvas, wood, stone, paper, etc. At Creedmoor iron targets have always been used, and are preferred, though those of other materials have been tried at different times. Those first erected were imported from England, but our American manufacturers now succeed in quite equaling those made abroad. These targets are made of chilled-faced iron slabs, each 2x6 feet, and  $1\frac{1}{4}$  inches in thickness, ribbed on the back to keep them from warping. Each slab weighs about 650 pounds, and two slabs placed together form a third-class target, three slabs a second-class, and six slabs a first-class. The slabs are painted white on the face, the bull's-eye, center, and inner divisions are marked with a pair of wooden compasses, and these lines are then painted over with lampblack. In addition to the regular targets at Creedmoor, there is likewise there a "running deer" target. This figure, in the form of a deer in the act of running, is made of two thicknesses of iron, riveted together and working on a central pivot, which is carried by an iron-bound framework running upon four wheels on iron rails. These rails are lower in the center than at the ends, and the figure, started at one end with an impetus aided by gravity, travels up the second inclined plane by the force of its acquired velocity. This target is also painted white with marks and lines of black. There is also one stone target at Creedmoor, a large solid block of sandstone. Of the

different kind of targets, it may be said that the wooden and paper targets are easily made and cheap, and useful enough for occasional use, but for steady rifle practice are too easily destroyed. The canvas target is the rival of the iron, being much cheaper and easier handled, and, though not as durable, being more lasting than any other material. The canvas is stretched upon an iron framework and held by strings passing through holes in the iron. The face of the canvas can be painted as desired. The target used at Wimbledon is made of canvas on an iron frame. It is a double target, the two parts working like the sashes of a window. The upper sash represents the target proper, and the lower sash a dummy target, covered with wire, and only used for signalling. When the target is pulled down, the dummy goes up and vice versa. Swinging and revolving targets are also used.

#### PUBLIC SURVEYING.

CHICAGO.  
Give a history of the origin and a full explanation of our public land system of surveying.

W. M. OSGOOD,  
ELK POINT, D. T.  
Are our public lands ever resurveyed so as to rectify palpable errors made in location of boundaries, corners, etc.? W. H. H.

*Answer.*—The curious reader will find in Our Curiosity Shop Book for 1885 a full account of the origin of the present system of dividing public lands; also, a table locating all the base lines and meridians used. We will briefly outline the plan followed: A base line is established, from which a line run northward is taken as a principal meridian, and this meridian is understood to extend northward to British America. Every twenty-four miles north from the base a line is run west forty-two miles, called a standard parallel, then one is run north from the base to connect at the end of this line, which is called a guide meridian. The land is laid out in divisions, each containing 448 square miles. This is then divided into townships, each sixteen miles square, beginning at the southeast corner, and throwing the fractional towns on the north and west sides. The townships are then subdivided into sections by the government, beginning in the same way at the southeast corner, and throwing all the fractions in the north and west sections. The manner of running the correction lines to minimize the errors caused by the convergency of the meridians, will be found fully explained in Our Curiosity Shop book for 1884. All the sections of a township except those on the north and west are supposed to contain 3640 acres each, but mistakes in surveying often make some contain more and others less than the proper area, and complaints are often made by new settlers concerning these irregularities of outline. This, however, can not be helped, as the government makes no second survey to correct errors. An act of Congress, approved Feb. 11, 1805, provided that all corners marked in the surveys returned by the Surveyor General shall be established as the proper corners of sections and subdivisions of sections which they were intended to mark, and, according to this law, all corners identified as original corners must stand as the true corners, though



not placed in accordance with strict accuracy in surveying.

#### THE SOURCE OF THE NILE.

ULMADALE.  
Tell what is now known concerning the source of the Nile.  
W. RITTENBERG.

*Answer.*—The Nile is formed by the junction of the Blue Nile and the White Nile at Khartoum, in the Soudan country. The White Nile is the main stream, or true Upper Nile. It has been traced to its source in Lake Victoria Nyanza, a large body of water situated under the equator, at an elevation of 3,740 feet above the level of the sea. The ultimate source of this river, or the streams which feed Lake Victoria, have not yet been thoroughly explored. The Blue Nile has its source in the high mountain regions of Abyssinia, at an elevation of 9,000 feet, from which it descends with great force, and carrying a tremendous volume of water. The upper waters of this stream have been but slightly investigated by white men.

#### GOVERNORS OF MISSOURI.

OSKALOOSA, Iowa.

Please give the names of all the Governors of Missouri from the first to the one most recently elected.  
HELEN C. BAILEY.

*Answer.*—The following list gives the names desired, with dates of appointment:

Alexander McNair.....	1820-24
Frederick Bates.....	1824-26
John Miller.....	1826-32
Daniel Dunkin.....	1832-36
Lilburn N. Boggs.....	1836-40
Thomas Reynolds.....	1840-44
John C. Edwards.....	1844-48
Austin A. King.....	1848-53
Sterling Price.....	1853-57
Truston Polk.....	1857
Hancock Johnson.....	1857
B. M. Stewart.....	1857-61
Clairborne F. Jackson.....	1861
Hamilton R. Gamble.....	1861-64
Thomas C. Fletcher.....	1865-69
Joseph W. McClurg.....	1869-71
Benj. Gratz Brown.....	1871-73
Silas Woodson.....	1873-75
Chas. H. Hardin.....	1875-77
John S. Phelps.....	1877-81
Thomas T. Crittenden.....	1881-85
J. S. Marmaduke.....	1885

#### ELEVENTH ILLINOIS CAVALRY.

MULVANE, Kan.

Give brief account of the Eleventh Illinois Cavalry.  
E. W. PHILLIPS.

*Answer.*—The Eleventh Illinois Cavalry was mustered in at Camp Lyon, Peoria, Dec. 20, 1861, Colonel R. G. Ingersoll commanding. It remained in camp until Feb. 22, 1862, when it was sent to Benton Barracks, and then went to Crump's Landing, Tenn., to join the brigade of General Lew Wallace. The regiment was under fire for a time at Shiloh, and lost heavily in killed and wounded. It was subsequently in the fights at Bolivar, Tenn., Corinth and Iuka, Miss., and during the winter following was stationed at Jackson, Tenn. In a fight with Forrest's raiders in December, seven officers, including Colonel Ingersoll, and about 100 men were taken prisoners, but were paroled on the following day. During the spring and summer of 1863, the regiment was stationed along the Memphis and Charleston Railroad, making numerous raids into the surrounding country, and having frequent skirmishes with the enemy. In September

it was sent into Mississippi, and took part in the Meridian expedition. Most of the regiment reenlisted as veterans, and took its furlough in March and April, 1864. During the following summer it was in the vicinity of Vicksburg, and engaged in scouting through the surrounding country. In the fall it made a raiding expedition to Woodville, La., and later, one into Arkansas. Was subsequently stationed in the vicinity of Memphis till its muster-out, Sept. 3, 1865.

#### "LAY ME DOWN AND SAVE THE FLAG."

SPRING GREEN, Wis.

The song "Lay Me Down and Save the Flag!" is said to be founded on the circumstances of the death of Colonel James A. Mulligan. Can you give the incident, if true?  
G. G. RIELLY.

*Answer.*—At the battle of Winchester, July 24, 1864, Colonel Mulligan, in command of the Twenty-third Illinois Infantry, led a charge on the rebel lines, in which he was mortally wounded. A squad of his men, seeing him fall, came forward to carry him off the field. As they were taking him toward the rear he saw that the regimental colors were endangered, and, turning to his bearers, said: "Lay me down and save the flag." As they hesitated, he repeated the order peremptorily, and was obeyed. Before the men returned the wounded hero had been borne off by the enemy, and two days later he died in their hands.

#### OXYGEN AND ELECTRICITY.

OSKALOOSA, Iowa.

Please state the difference between oxygen heat and electricity in language that ordinary people can understand.  
S. K. PETTIT.

*Answer.*—Oxygen and electricity are essentially different in their nature, the former being one of the simple elements of nature, while the latter is a force whose nature is wholly uncomprehended and whose existence is only known through its manifestations. At the same time, what we understand to be meant by oxygen heat is the heat generated by the consumption of matter in the presence of oxygen, and this heat is not an element, nor, properly speaking, a condition, but a force, and as the forces of nature are all transmutable, that is, convertible the one into the other, therefore oxygen heat may be transformed under favorable conditions into electricity; or, vice versa, electricity may become oxygen heat. Oxygen is an essential constituent of all living organisms. It forms nearly one-fourth of the atmosphere, constitutes eight-ninths of all the water of the globe in rivers and seas, and in all animal and vegetable organisms, and enters largely into the composition of most of the mineral bodies that form the mass of the solid earth. It is essential to all forms of life, to the respiration of animals, and to the growth of vegetables. It is necessary to all forms of combustion, from the slow consumption of tissue in the body that sustains the heat in the blood necessary to the continued functions of life, to the fierce heat of the blow-pipe that melts the hardest metals. The processes of chemistry can free oxygen from its combination with other substances in nearly all cases, but when free it is always in the form of a gas. Electricity, on the other hand, is wholly impalpable; we have no experience of its nature outside of electrified bodies. We can only study

it through such bodies, and therefore may say that we have no conception of its existence apart from them. Study has enabled us to recognize its manifestations and to apply its wonderful power in a thousand ways in our service, but of its true nature we know no more to-day than when Franklin first brought down a lightning flash from the clouds a century ago.

#### THE BAD LANDS.

OAKLAND VALLEY, Iowa.

Tell something about the "bad lands" of the West and how they came to receive this name.

F. W. HARVEY.

*Answer.*—These bad lands are to be found on the wide plateaus on the eastern side of the Rocky Mountains. The early French travelers through these regions called the lands "mauvais terres," meaning probably land bad for travel, but the simple English translation is very appropriate, as the lands are bad in every sense and utterly valueless for purposes of settlement. The bad lands along the valley of the Little Missouri River have been most thoroughly explored. They are all covered with small hills or mounds, known in that country as "buttes." Scarce a spear of grass can be seen on any of them, but they are streaked with broad bands of color, red, gray, blue, brown, etc., caused by the stone composing them, which is laid in strata of remarkable regularity. After every rain the sides of the buttes are marked with little channels, showing that by slow degrees the sandstone and clay of the hills is all being washed away and the valleys will ere long be filled with the stony deposit. Then there are whole beds of clay baked as hard as pottery. At one place the Northern Pacific Railroad cuts through an entire hill of this material, which is called Scoria cut. There are no traces of volcanic action here, and yet there are plain marks of fire. This is fully explained to the traveler when he comes to a butte through whose rifts smoke and hot gas are pouring. An important feature of the geological formation of this country is the beds of lignite, or soft coal. These are laid bare by the action of the water, and the heat then generated by the contact of the atmosphere with the moistened lignite sets it on fire. The burning goes on until all the coal has been consumed. These covered fires continuing from year to year destroy every particle of fertility in the earth, and render these lands a hopeless, barren waste.

#### SECOND COLORADO INFANTRY.

SHERIDAN, M. T.

Give a brief sketch of the Second Colorado Volunteer Infantry.

J. E. JONES.

*Answer.*—The nucleus of this regiment was two companies which were raised in the fall of 1861, mustered in December of that year, and sent to New Mexico, where they saw some hard marching and rough fighting. During 1862 the other companies of the regiment were raised in Denver. The work of organization progressed but slowly, for often before a company was half enlisted it would be ordered off on some detached service, such was the disturbed condition of affairs in Colorado at this time. In August the headquarters of the regiment were removed to Fort Lyon, and in the following April the

regiment, which had been raised to six full companies, was sent to Fort Leavenworth to complete equipment. In July the regiment took part in the battles of Cabin Creek and Honey Springs. In October the Second and Third Regiments of Colorado Infantry were consolidated and mounted, and were thenceforth known as the Second Colorado Cavalry, and were sent to protect the Missouri border. Skirmish encounters with the enemy were frequent, and the aggregate loss in killed and wounded was large. In September, 1864, they took part in the hotly contested fight at Independence, by which the attempt of Price to push his forces into Kansas was thwarted. This General was forced to retreat as rapidly as possible over the Arkansas border, and, being pursued, made his last stand, and sustained an inglorious defeat at Newtonia. In the last-named fight the Second Colorado lost forty-two men killed and nearly 100 wounded. After this, in December, 1864, the regiment was ordered to Fort Riley, Kan., to be refitted, and spent the winter in scouting along the Santa Fe road. During the spring and summer of 1865 the regiment was kept almost continually in motion, looking out for trouble with the Indians, but there was little real fighting, and in October it was mustered out.

#### THE RUSSIAN CHURCH.

YORKVILLE, Mich.

Would like a description of the prevailing religion of Russia since the time of Peter the Great. How long has Protestantism been tolerated?

R. FRANKLIN.

*Answer.*—The great majority of the inhabitants of Russia belong to the Russian Church, which is a branch of, and is identical in doctrine with, the Greek Church. Christianity was introduced into Russia in the ninth century. In the great schism between the Eastern and Western churches the Christians of Russia were divided in sentiment, but later they generally gave in their adherence to the Greek party. In 1589 the Russian Church was made a patriarchate, subordinate, however, to the patriarch of Constantinople. This subordination was acquiesced in for about a century, and was then repudiated by the patriarch Nikon, who claimed authority to alter the ritual of the church, and even to disregard civil power. One of the first reforms, therefore, of Peter the Great, was the suppression of the patriarchate and the direct subordination of the church to the civil authority. He acted very cautiously in the matter, appointing, on the death of the patriarch Adrian in 1700, an acting director of ecclesiastical affairs, with the title of exarch, to act until a new patriarch could be chosen, and when, after an interval of twenty years, the public mind had partially forgotten the patriarchate, the office was formally abolished, and the administration of church affairs placed under the direction of a council of bishops and archbishops appointed by the Emperor. Under the direction of this council a complete revision of the doctrine, discipline, and government of the church took place, and the changes being approved by the Czar, the new code was adopted by the Russian Church. In doctrine the church does not



differ materially from the main body of the Greek Church. The liturgy used is the same as that of the church at Constantinople, but it is read not in Greek, but in the Slavonic tongue. One of the principal objects of the imperial policy toward the church, inaugurated by Peter the Great, has been a general uniformity of religious opinion throughout the empire. Dissent, in all its forms, has not only been discouraged, but in many cases rigorously repressed, and it has only been during late years that general toleration has been permitted. The Roman Catholic Church, forming the largest body of dissentients, has been the object of especial severity, particularly under the Czar Nicholas. The next largest body of dissenters is generally called the Raskolniks, but they style themselves the Old Believers. They withdrew from the church at the time that changes were introduced into its ritual by the Patriarch Nikon, and they have never agreed to acknowledge the Czar as head of the church. They have often been severely persecuted by the government. The established church is still granted some especial privileges. None of its members are allowed to secede to another denomination, and all children of mixed marriages are declared to be under its control. In other respects, under the laws of Alexander II., all Catholics and Protestants enjoy equal civil rights with members of the established church, and are equally admissible to the highest offices of the empire, while even unconverted Tartars are allowed to hold military offices.

#### PAPER MAKING BY HAND.

WITTENBERG, Wis.

Would like to know how paper is made by hand.

L. F. KLENKE.

*Answer.*—Hand making of paper was formerly practiced in all countries, but is now almost wholly abandoned for the use of machinery. The substance to be used, rags, bark, or the like, is first reduced by water and heating to a fine, smooth pulp. The workman then takes his mold, which is a sheet of net-work attached to a frame. Usually two kinds of molds are employed. In one the wires are woven across each other, so as to make a very fine gauze, and paper made with this mold is called "wove" paper. In the other the wires are wider apart, the transverse ones being about twenty to the inch, and the longitudinal ones a little more than an inch apart. Paper made with these molds is termed "laid" paper. With both molds a deckle is used, which is a thin frame corresponding exactly to the size of the mold. The workman first puts the deckle on the mold, and then dips both into the pulp; the deckle forms a ridge which retains just enough of the liquid pulp for the sheet of paper. When the water of the pulp has completely drained through the wire gauze, the face of the sheet is applied to a piece of felt stretched on a board called the couch, and pressed. The pressure causes the sheet to leave the mold and adhere to the couch. Each successive sheet is treated in the same way, and all are piled together with a sheet of felt upon each, and the piles, when they contain several quires each, are put one by one in a powerful

press. When taken out of this the pieces of felt are removed and the sheets of paper are hung up in the drying loft. When thoroughly dried they are put into hot size, then pressed again and glazed by being passed through hot rollers of polished iron or steel. The sheets are then folded and made into quires.

#### MARY AND HER LITTLE LAMB.

POLO, Ill.

Who was the author of "Mary Had a Little Lamb," and under what circumstances was it written?

GEORGE KNOX.

*Answer.*—Many readers will be surprised to learn that the well-known verses called "Mary Had a Little Lamb" were founded on actual circumstances and that its heroine, Mary, is still living. About seventy years ago she was a little girl, the daughter of a farmer in Worcester County, Mass. One spring the farmer brought a feeble lamb into the house and Mary adopted it as her especial pet. It became so fond of her that it would follow her everywhere. One day it followed her to the village school, and, not knowing what else to do with it, she put it under her desk and covered it with her shawl. There it stayed until Mary was called up to the teacher's desk to say her lesson, and then the lamb walked quietly after her and the other children burst out laughing. So the teacher had to shut the little girl's pet in the woodshed until school was out. Soon after this a young student named John Rollstone wrote a little poem about Mary and her lamb and presented it to her. The lamb grew to be a sheep and lived for many years, and when at last it died, Mary grieved so much for it that her mother took some of its wool, which was "as white as snow," and knitted a pair of stockings for her to wear in remembrance of her darling. Some years after the lamb's death, Mrs. Sarah J. Hale, a celebrated woman who wrote books, composed some verses about Mary's lamb and added them to those written by John Rollstone, making the complete poem as we know it. Mary took such good care of the stockings made from her lamb's fleece, that when she was a grown-up woman she gave one of them to a church fair in Boston. As soon as it became known that the stocking was made from the fleece of "Mary's little lamb," every one wanted a piece of it; so the stocking was raveled out and the yarn cut into short pieces. Each piece was tied to a card on which "Mary" wrote her full name, and these cards sold so well that they brought the large sum of \$140 to the Old South Church.

#### INCH-CAPE ROCK.

CHICAGO.

Give the story of the bell on Inch Cape Rock. How is the name of the rock pronounced? S. E. NORMAN.

*Answer.*—The rock is situated in the German Sea about twelve miles from land, directly east of the Firth of Tay. The word inch is from inis, meaning island. The named should be pronounced in two syllables—inch-cape. In the middle ages the abbot of Aberbrothok fixed a bell on a float on this rock, so that when the waves covered the rock their motion rang the bell, and thus warned mariners of its dangerous vicinity. Ralph the Rover, a sea pirate, who prospered by plundering wrecks, cut the bell

from the float. On his return home he was wrecked on this very rock. The poet Southey has a ballad embodying this story. There is now one of the finest light-houses of the world on this rock, which was built in 1806-10. There are two bells attached to the rock by floats to warn sailors, in hazy weather, of its vicinity.

#### THE BOSTON MOB.

Was William Lloyd Garrison once dragged through the streets of Boston with a rope around his neck, as has been recently asserted? SUBSCRIBER.

*Answer.*—The facts of the Boston mob were disgraceful enough without making them seem any worse than they actually were. This mob occurred Oct. 21, 1835. A postponed meeting of the Female Anti-slavery Society was to be held on that day, before which it was expected that Mr. George Thompson would lecture. Mr. Thompson was very unpopular—first, because he was an Abolitionist; secondly, because he was an Englishman; and thirdly, because he was said to use very strong language in his condemnation of slavery, advocating the rising of the slaves against their masters, etc. To prevent the threatened mob, therefore, Thompson left Boston the day before the meeting, by the advice of the friends of the society. The ladies assembled at the appointed time and Mr. Garrison was present, expecting to speak, but as a mob was already gathering, with noisy demonstrations, the ladies requested him to withdraw, thinking that his presence was more of a danger to them than a protection. He therefore retired to the office of the *Liberator*, next door. The concourse of rioters increased, and filled the halls and stairways of the building, while thousands blocked the street, and by howling and groaning endeavored to break up the meeting. The Mayor appeared and informed the mob that Thompson had left the city, and ordered them to disperse. As he was not obeyed, and as the general excitement was plainly on the increase, the Mayor went into the building and insisted that the ladies should discontinue their meeting while it was possible for him to see them out safely. The mob gave way and permitted the ladies to pass through, then turned their attention to Mr. Garrison's office, tearing down the sign and breaking it into fragments, while they shouted loudly for "Garrison!" The Mayor and other gentlemen, making their way into Mr. Garrison's rooms, insisted that he should endeavor to escape by the rear of the building. This he did, and dropping from a back window upon a shed made his way into the upper part of a shop near by, where an effort was made to conceal him. But the mob, however, had seen him, and soon several ruffians broke into the room and seized him. The part played by "a rope" in the affair we give in Mr. Garrison's own words: "On seeing me, three or four of the rioters, uttering a yell, furiously dragged me to the window, with the intention of hurling me from that height to the ground; but one of them relented and said: 'Don't let us kill him outright.' So they drew me back, and coiled a rope about my body, probably to drag me through the streets. I bowed to the

mob, and, requesting them to wait patiently until I could descend, went down upon a ladder that was raised for that purpose. I fortunately extricated myself from the rope and was seized by two or three powerful men, to whose firmness, policy, and muscular energy I am probably indebted for my preservation. They led me along bareheaded (for I had lost my hat) through a mighty crowd, ever and anon shouting: 'He shan't be hurt! You shan't hurt him! Don't hurt him! He is an American!' etc. The dragging, so-called, was to save Mr. Garrison's life from the mob, which so pressed upon him that his clothing was torn almost literally into shreds. His fearless guards, however, who, he afterward learned, were two sturdy truckmen, got him safely inside of the Mayor's office, in the City Hall. The Mayor, who seems to have been quite overcome with terror at the violence of the mob, fearing that the rioters would burn the city building or force their way in to do other injury, had Mr. Garrison immediately removed in a carriage to jail. On the following day he was, of course, released, but at the solicitation of his friends withdrew from Boston for a few days till the public excitement had quieted.

#### SUN DOGS AND MOON DOGS.

BRADGATE, IOWA.  
Explain the phenomena of "sun dogs and moon dogs." O. R. RICHE.

*Answer.*—What are popularly known as mock suns or sun dogs, have the scientific name of parhelia. A parhelion is an attendant image, more or less distinct, of the sun's disk. Similar appearances about the moon are called paraselenae. They usually appear with the phenomenon of halos, and are explainable under the same laws, those of the crystallization of water and the refraction of light. For these appearances are only seen when the air is surcharged with vapor, and this in extreme cold weather when the atoms of the vapor or moisture are at the point of crystallization. It would be impossible to explain in our limited space to the non-scientific reader just how the refraction and reflection of light causes these appearances, but we may note a few facts on which they seem to be based. First, water crystallizes in regular hexagonal prisms, and these prisms, when the air is filled with vapor, are suspended in the air in great numbers, and in innumerable different positions, between the eye of the spectator and the sun. The refraction of the light passing through them results in an appearance of a colored circle with the sun as a center. The light reflected from the surfaces of these prisms will be white and diffused with uniformity about the sun. If an excess of the prisms have their axes in a vertical position they will present refractions more marked than the others, which take the form of colored images of the sun to the right and left of that body. If the sun is near the horizon these appear on the halo, and if it is higher they are thrown beyond it. These colored images are always at the same altitude as the sun. There is another form of the mock sun, which is a single white image, occasionally seen above the horizon after the sun has



set, or before he has risen. This is caused by the reflection of his light from the horizontal edges of ice prisms. This theory of the formation of sun dogs is corroborated by the fact that halos whose appearance always attends that of the mock sun, are always seen to have a radius of 22 or of 46 celestial degrees, these positions depending upon the angle at which the light enters the prism. There are, however, combinations of these two appearances, and attendant tangent arcs often visible, all of which can be clearly explained to one acquainted with the mathematics of light, but which can hardly be made comprehensible to the general reader. The appearance of halos about the sun is common enough, but mock moons are a rare phenomenon.

JACK ROBINSON.

Please give the origin of the expression "Before one could say 'Jack Robinson,'" ALTOONA, D. T.  
S. HOLMESLAND.

*Answer.*—Concerning this expression Brewer's "Dictionary of Phrase and Fable" says: "It is said that this phrase had its birth from a very volatile gentleman of that name, who used to pay flying visits to his neighbors, and was no sooner announced than he was off again, but the following couplet from an old play:

'A warke it ys as easie to be done  
As tys to saye Jackel Robyson,'

seems to cast some doubt on this derivation."

WHISKY—THE DARK DAYS.

BEIRNE, ARK.  
1. By whom and where was whisky first made? Give a history of its first discovery. 2. Give an account of the three dark days of New England. CHARLES ROOKS

*Answer.*—It is thought that the process of distilling liquors from grain was first discovered in India. It is believed to have been introduced into Europe by the Moors about 1150. It is said that it was introduced into Ireland at some time near the above date. It was first used in England at about the close of the century. When first made whisky was used as a medicine. Direction for making usquebaugh or aqua vitæ are contained in the Red Book of Ossory, a volume compiled in the fourteenth century, in which it is described as a panacea for all diseases. Usquebaugh was a Celtic name for the liquor, from which the word whisky is no doubt derived. But the name whisky was at first given to the liquor distilled by the Scotch Highlanders from barley only, and had not, until later times, its present more general application. The distillation of whisky from Indian corn was begun by the colonists at a very early day in their history.

2. There are on record, speaking accurately, but two dark days in New England. The first occurred Oct. 21, 1716. It was so dark for some hours on that day that people were obliged to use artificial lights to do their ordinary work. Oct. 19, 1762, a dark day occurred at Detroit. It was after the longest drought ever known in America, no rain having fallen for 123 consecutive days. There seems little doubt that the extraordinary darkness experienced at Detroit was caused by smoke from forest fires in Northern Michigan. During its continuance rain fell which was said

to have "a dirty, sulphurous smell," but was probably only deeply impregnated with resinous smoke. This phenomenon was only slightly perceived in the Eastern and Middle States. The third dark day on record was the most remarkable one. It is generally known as "the dark day in New England," being so much more notable that it completely overshadowed the others. A full account of it will be found in Our Curiosity Shop book for 1885.

MRS. HANNAH MORE.

MORRIS, III.

Give brief biography of Hannah More. N. ROBINSON.

*Answer.*—Hannah More was born in Gloucestershire, England, Feb. 2, 1745. She was educated at a seminary in Bristol, kept by her sister, and early evinced remarkable talents. At the age of 16 she composed a drama called "The Search after Happiness." During the following six years she produced five other dramas, two of which were put successfully on the stage by David Garrick. About 1780 Miss More came under the influence of strong religious feeling and ceased writing for the stage, but she continued to write a great deal on serious subjects. In 1795 she began the publication of a monthly periodical called the *Cheap Repository*, consisting of brief moral tales written by herself. One of these especially, "The Shepherd of Salisbury Plain," had an enormous circulation. Miss More, with the profits of her literary labor, founded several schools, and was indefatigable in her efforts to educate and help the poor. Because of her sensible writings on female education she was invited to draw up a plan of instruction for the Princess Charlotte of Wales. This little work, entitled "Hints Toward Forming the Character of a Young Princess," was published in 1805. It abounds in wise suggestions that can be read by mothers in all countries and ranks with profit. Another very popular work by Miss More was "Cœlebs in Search of a Wife," of which ten editions were sold in one year. Her later writings were all of a purely religious character. She was never married, but was known in her late years, according to the old custom of using the title to show respect, as Mrs. Hannah More. She died Sept. 7, 1833.

SIR EDWARD BULWER LYTTON.

MALTOON, III.

Give sketch of the life and works of Sir Edward Bulwer Lytton. C. J.

*Answer.*—Baron Lytton, whose true name was Edward Lytton Bulwer, was born in Norfolk, England, in 1803. His father, General Bulwer, had served in the army, and his mother, Elizabeth Lytton, was of a wealthy family of Hertfordshire. Edward was the youngest of three sons, and was carefully educated under the superintendence of his mother, whose taste for literature probably influenced her son largely toward his choice of authorship as a profession. When at Cambridge University he took a prize for English verse. His first novel, "Falkland," was published in 1827, but his remarkable talents as a novelist were not evinced until the second work from his pen was made public—

"Pelham, or the Adventures of a Gentleman," in 1828. These volumes were followed by "The Disowned" (1828), "Devereux" (1829), "Paul Clifford" (1830), and "Eugene Aram" (1832). The hero of the last-named novel had taught in the family of Bulwer's grandfather, and familiarity with his strange and tragic history had given the young writer a great interest therein. In 1831 he became editor of the *New Monthly Magazine*, and the same year was elected to Parliament, of which body he continued a member until 1841. Though he suffered much from ill-health, he continued for forty years to labor almost continuously with his pen, writing not only numerous romances, but magazine articles on almost every variety of subject. We have only space to mention a few of his best-known novels. In 1834 he published "The Last Days of Pompeii," "Rienzi, the Last of the Tribunes" (1835), "Ernest Maltravers" (1837), "Zanoni" (1842), "The Last of the Barons" (1843), "The Caxtons" (1850), "My Novel" (1851), "What Will He Do with It?" (1858). He also wrote a number of fine poems and plays, two of which, "The Lady of Lyons" and "Richelieu," rank among the great, successful dramas of English literature. In 1801 "A Strange Story" was published, a novel dealing largely, like "Zanoni," with the supernatural. "The Coming Race," issued in 1871, was an imaginative tale, dealing with the marvellous possibilities opened to the human race by scientific discovery. When he died, Bulwer left two complete novels—"The Parisians" and "Kenelm Chillingly"—and one partially written, "Pausanias, the Spartan." All of these were subsequently published. When Bulwer came into possession of his mother's property, in 1844, he assumed the name of Bulwer Lytton. He was raised to the peerage as Baron Lytton in 1866. He received a number of literary distinctions, and was for a time a member of the British Cabinet. He was married in 1827 to Miss Rosina Wheeler, an Irish lady, but the union was not a happy one, and the parties were divorced some years later. Baron Lytton died Jan. 18, 1873.

#### THE MOSQUITO RESERVATION.

INDEPENDENCE, IOWA.  
Give an account of the Mosquito reservation in Central America.

M. B. CHAPMAN.

*Answer.*—The territory known by the name of the Mosquito reservation is a strip of land on the eastern coast of Nicaragua, extending from the Wawa River on the north to the Rama River on the south, and from the sea inland to the meridian of 84 deg. 15 min. w. It contains an area of nearly 9,000 square miles. The western part of the reservation is hilly, but the part near the coast is low, and it is all generally covered with forest. It has a population of from 8,000 to 10,000 aboriginal Indians, whose chief calls himself the King of the Mosquito Nation. The first king of the Mosquitos was crowned at Balize in 1825. At his death, several years later, he appointed as regent the British agent at Balize. From this time Great Britain, who had maintained a foothold in the Honduras country since

1740, claimed a protectorate over the Mosquito Kingdom. In 1848 she seized the port of San Juan, and made an attempt to extend her protectorate over all the adjacent coast. This led to a diplomatic quarrel with the United States, which joined the Central American republics in refusing to acknowledge the claims of Great Britain. This was settled by the Clayton Bulwer treaty in 1850. The points at issue between Nicaragua and Great Britain were settled by the convention of Managua in 1860, when San Juan was constituted a free port and Nicaragua assumed the protectorate over the Mosquitos, with the understanding that they should recognize the sovereignty of the republic, the King and his successors to exercise simply an administrative authority.

#### A REMARKABLE FORGERY.

CHICAGO.

Give an account of the will of Peter the Great.

M. N. PERRY.

*Answer.*—Peter the Great never made a will. His last illness, though preceded by a long term of impaired health, found him altogether unprepared for making any final settlement of the affairs of his empire. And his disease made such rapid and painful progress that he was not even able to name his successor. As he felt his end draw near he called for a slate, on which he succeeded in writing only the words "Give all," when the pencil dropped from his hand. He called for his daughter Anna, to dictate to her, but when she came he was no longer able to speak. After about thirty-six hours of unconsciousness he died. Though these facts of history are well known, a paper called the "Testament of Peter the Great" has been for half a century in circulation, and has been frequently quoted, though its forgery has been long ago plainly shown. It may be positively stated that no such document has ever been found in the Russian archives, though these are freely open to historical students and have been fully searched for this paper. Though Peter died in 1725, nothing was ever heard of this so-called "testament" until 1812, when it was first mentioned in a book published in France, called "Progress of the Russian Power from Its Origin to the Beginning of the Nineteenth Century." This book was written by Charles Louis Lesur, then employed in the French Foreign Office, though later he became an author of some note. There is good reason for believing that this book was written by order of the Emperor Napoleon, in order to furnish reasons for his intended invasion of Russia, and it was published under the immediate superintendence of the French government. In this book there is a summary of a plan for the subjugation of Europe, which the author claims to have taken from a testament left by Peter the Great, and preserved in the secret archives of the Russian Czars. This summary consisted of fourteen articles, of which the first twelve simply outlined the policy that had been pursued by Russia from the death of Peter down to the date of writing the book, and the other two stated what Russia had still to do to conquer the whole



of Europe. It was plainly shown by many who examined this work that neither the idea nor the quoted phrases of the so-called "testament" could possibly have been those of the Emperor, but the forgery deceived many. Twenty-four years later, Frederic Gaillardet, in publishing the memoirs of that strange character of the eighteenth century, the "Chevalier D'Eon," asserted that this personage discovered the "Testament of Peter the Great" in the Russian archives, and had brought a copy of it to Paris in 1757. Gaillardet published the pretended testament, using the same text as that given in Lesur's book, only rendering it a little more full and formal. He asserted that the document was found in the summer palace of Peterhof, though Russian historians declare that no archives ever existed at that palace. In 1866, Gaillardet, who had come to New York to reside, published another edition of D'Eon's memoirs, in which he admitted many exaggerations and falsehoods in the first edition, but still asserted the genuineness of the testament. Another French work, a history of Poland, written by a native of that country and published in Paris in 1839, gives the will, copied from Gaillardet's work, and further asserts that Peter drew up the plan of the will in 1709, after the battle of Poltova, and revised it in 1724. During the Crimean war, when there was again a desire to excite public opinion against Russia, further use was made of this supposititious will, quoting from the works above mentioned. Yet no careful historical critic has ever granted any credibility whatever to the document.

#### DAMASCUS STEEL.

What are the peculiarities in the process of making Damascus steel?  
MILTON, Iowa,  
R. E. WELLS.

*Answer.*—The characteristics of the famous steel made in Damascus were hardness, strength, great elasticity and a beautiful variegated surface, flashing with prismatic colors at certain angles of light. The skill of the Damascenes in the manufacture of steel became known to Europe at the time of the crusades, but the secrets of their process have never been revealed. However, a mining engineer of Russia, General Anosoff, by analysis and examination succeeded in making steel of nearly as fine quality as that at Damascus, and scarcely distinguishable from it in appearance. He had charge, for a number of years, of the iron works at Zlatoust in the Ural mountains, where he superintended the manufacture of this fine quality of steel. The essential point of his process was melting the iron in crucibles with graphite and a small quantity of dolomite. His essentials of the best steel are given as follows: Charcoal of the cleanest sort, as pine; a furnace constructed of the most refractory materials; the best quality of crucibles; iron also of the best, very malleable and ductile; pure native graphite; flux of dolomite or calcined quartz; a high temperature and fusion continued as long as possible." The details of working these materials with entire success were, of course, only understood by the successful manufacturer. It has been

said that since the death of General Anasoff, in 1851, the works have never under any management produced such fine steel as that for which they had previously become celebrated. There is a kind of steel, made in this country, which is an imitation of Damascus steel and often known by that name, though its proper appellation is damasked steel. It is made by forging together iron and steel, and the peculiar damask figures on its surface—which give it its name—are produced by a diluted acid, which gives a black tint to the steel while the iron remains white. It is a very hard and tough quality of steel.

#### MOTIONS OF THE EARTH'S AXIS.

How do we know that the earth has a third motion in space?  
LA PLACE, III.  
HAS WAVING OR  
JOSEPH ULLRY.

*Answer.*—Besides the motion of revolution around the sun and rotation on its axis, the earth has a third waving movement, which is really a swaying motion of its axis, similar to the oscillatory movement of the axis of a top while spinning. The only difference between this movement of the earth's axis and that of the axis of a top is that the latter takes place in the same direction as the rotation of the top itself, while in the case of the earth the pole of the axis turns in the opposite direction to that in which the earth revolves. Now the cause of this waving motion is the attraction of the sun and moon upon the oblate portion of the earth about the equator. This part of the earth is more attracted than the poles, because of its greater mass; being more attracted, its motion is greater, and this accelerated movement of one part of the globe imparts a peculiar oscillation to that part which is less attracted, that is, the polar regions. And the way that we know of this motion and can test its extent, is by noting the changing obliquity of the earth in the ecliptic, and the change of position of the pole of the heavens. The pole of the heavens, be it remembered, is the exact point where the axis of the earth prolonged would cut the heavens. If this axis were fixed and the earth in its revolution and rotation did not oscillate, that pole would be a fixed point. On the contrary, it is a slowly shifting point, making in 29,000 years a complete wavy circle about the ecliptic. During this time the equinoxes make a complete revolution in the ecliptic against the order of the signs, and the inclination of the earth to its orbit shifts nearly one degree forward, and back again nearly a degree to its former position.

#### KHYBER PASS.

Where is Khyber Pass, and for what is it noted?  
CHICAGO.  
R. NINTON.

*Answer.*—Khyber Pass is a pass in the Khyber mountains between Afghanistan and India. It forms the principal entrance into India from the Northwest, and is the only road over which artillery can be conveyed. It is a gorge nearly thirty miles long, enclosed by lofty cliffs of slate, rising almost perpendicularly on the sides to the height of 1,000 feet. The pass was formerly held by wild tribes, who compelled the Afghans to pay toll for passage. In 1839, the British forced

their way through the pass, when they invaded Afghanistan, and after the campaign the victorious army withdrew through it. In 1842, the British were again obliged to use force to secure transit. From that time till 1881, the British held the pass. It is now in the possession of the Afghans.

#### STAR ROUTES—SPEAKER—STANDARD OF WEIGHTS AND MEASURES.

FISK, IOWA.  
1. What are the star routes? 2. How long does the Speaker of the House hold his office? 3. In what year did Congress fix a standard of weights and measures? How much can the laws of the States vary from this standard?  
W. A. WALFORD.

*Answer.*—1. The star routes are those over which the mail is carried by other conveyances than that of railways. They are so called because they are designated in the records of the Post-office Department with three asterisks. It is said that these three marks stand for the words celerity, certainty, and security. 2. The Speaker of the House of Representatives is elected at the beginning of each Congress for two years. 3. The weights and measures used in the colonies were adopted from those in use in England, but in the lapse of time various differences came into existence, and these were continued after the colonies became States. By a resolution of the Senate, March 3, 1817, John Quincy Adams was commissioned to examine the weights and measures in use in the different States, and in his report, made in 1821, showed that considerable discrepancies existed within the limits of the several States, and often within the same State, in all the measures of weight, dimension, and capacity. No action, however, was taken on this report, but in 1830 a new comparison of the weights and measures in use in the different custom-houses was ordered by the Senate. This comparison was made by Professor Hassler, who reported that though much discrepancy existed, the mean corresponded very closely to the English standard. Under Mr. Hassler's supervision, therefore, accurate tables of all standard weights and measures were supplied to all the custom-houses. Further, by a joint resolution of Congress, June 14, 1836, the Secretary of the Treasury was directed to cause a complete set of all the weights and measures adopted as standards to be delivered to the Governor of each State in the Union for the use of the States respectively. To these the statutory standards of each State have been made conformable, and no variation from this standard, in any important particular, is allowed.

#### THE SLAVIC RACE.

HILLSBORO, WIS.  
Give the number of tribes or branches that belong to the Slavic race, and their names.  
A READER.

*Answer.*—The Slavs are one of the most numerous groups of nations of the Aryan race, and occupy nearly the whole of Eastern Europe and part of Northern Asia. In the earliest times to which the history of the people can be traced their seats were around and near the Carpathian Mountains, whence they spread north toward the Baltic, west toward the Elbe and the Saale, and finally, after the destruction of the Huns, south across the Danube over the territories of modern

Turkey and Greece. The unity of the race was destroyed, and they split into a number of tribes, separated from each other by political organization and different dialects. The Slavs are now divided, by the best scholars, into the eastern and western stems. The former of these contains three branches: 1. The Russians, who are subdivided into Russians and Ruthenians. 2. The Illyrico-Servian branch, comprising the Serbs proper, the Hungarian Serbs, the Bosnians, Herzegovinians, Montenegrins, Slavonians, Dalmatians, Croats, and Wends. 3. The Bulgarian branch. The western stem comprises: 1. The Polish branch, to which belong the Poles, the Slavic Silesians, and an isolated tribe in Pomerania called Kassubs. 2. The Czechoslovak branch, which embraces the Bohemians, Moravians, and Slovaks in Northwest Hungary. 3. The Lusatian branch, containing the remnants of the Slavs of North Germany. The aggregate number of the Slavs in Europe is estimated at nearly 100,000,000 people.

#### SENDING LIQUIDS THROUGH THE MAILS.

LITCHFIELD, ILL.  
Give provisions of the postal rulings concerning the sending of liquids through the mails.  
H. S. HOOD.

*Answer.*—Only liquids that are non-poisonous, non-inflammable, and non-explosive can be sent through the mails. These, if in bottles, must have the bottles strong enough to stand the shock of handling, and be further inclosed in a mold or papier mache tube not less than three-sixteenths of an inch thick in the thinnest part, and between the bottle and its case there must be a cushion of cotton felt or some other absorbent. The tube must also be closed by a tightly fitting screw lid of wood or metal, with a pad adjusted so as to prevent leakage. If the liquid or oil is in a tin cylinder or tube this tube must have a water-tight screw lid, with a rubber pad, and be further inclosed in a tube of wood or papier mache. Not more than five ounces can be sent in a single package.

#### ASSAY OF THE TOUCH.

LAPLATE, NEB.  
How do jewelers test gold, jewelry, etc., to determine its carat fineness?  
S. S.

*Answer.*—The only wholly reliable test of the fineness of gold is by assaying it, either by means of cupellation, which is known as the dry method, or by chemical analysis, called the humid method. When, therefore, any large quantity of gold is to have its fineness tested, a small quantity of it is subjected to assay by one of these methods, which separate the precious metal from all other associated substances, and show its proportion by actual measurement. In the case, however, of pieces of jewelry and small quantities of gold which it is impossible or inconvenient to assay by the usual way of melting or dissolving the metal, the fineness is determined by means of touch-needles and touch-stones. This method is known as "assay of the touch." Touch-needles are made in sets of gold of different degrees of fineness and differently alloyed with copper and silver. The touch-stones are usually of black basalt, but pieces of good black pottery answer the purpose well enough. The stone is marked with the piece of gold to be tested, and



this mark is compared with the marks made by the needles one by one. When the two marks are found to be exactly alike the fineness of the two marking substances is assumed to be the same, but a further test can be made by heating the touch-stone to redness and moistening the marks with aquafortis, their appearance, resulting from oxidation, showing the nature of the alloy in the substance.

#### WARS OF THE ROMANS—CAUSE OF ROME'S POWER.

1. What were the wars of the Romans previous to the beginning of the Empire? 2. What were the causes for Rome's rapid rise to power? THOMAS, Mich.  
M. E. D.

**Answer.**—1. The early history of Rome, embracing the period of the kings, is largely mythical. Legends of this period tell of the wars of the Romans with the Sabines, the Veians, the Etruscans, and other Latin tribes, which are no doubt more or less true, as we may believe that from the first this young and sturdy nation struggled for empire over its fellows. But authentic history does not begin until some time after the founding of the republic, about 500 B. C. During the two following centuries there were fierce wars waged with the Gauls, who poured down upon the country in hordes from the north. Then came wars with the other Latin tribes, ending in the complete subjugation of all Etruria and other neighboring provinces to Roman rule. This development of Rome's power led to wars with the Samnites, the other Italians, and the Greek cities of Italy. The many wars of the republic and their dates are given in the following list:

First Samnite war, 343-341 B. C.  
Great Latin war, 340-338 B. C.  
Second Samnite war, 326-304 B. C.  
Third Samnite war, 298-290 B. C.  
Pyrrhic (or Tarentine) war, 282-272 B. C.  
First Punic war, 264-241 B. C.  
War with the Gauls, 225-222 B. C.  
Second Punic war, 218-201 B. C.  
First Macedonian war, 215-206 B. C.  
Second Macedonian war, 200-197 B. C.  
War with Antiochus, 192-189 B. C.  
Third Macedonian war, 171-168 B. C.  
Third Punic war, 149-146 B. C.  
Fourth Macedonian war, 148-146 B. C.  
Achaian war, 146 B. C.  
Numantine war, 143-133 B. C.  
First servile war, 135-132 B. C.  
Jugurthine war, 111-105 B. C.  
The Cimbrian war, 113-101 B. C.  
Marsian or social war, 90-88 B. C.  
First Mithridatic war, 88-84 B. C.  
Civil war (Sulla and Marius), 88-82 B. C.  
Second Mithridatic war, 83-81 B. C.  
War against Sertorius, 80-72 B. C.  
War of the Gladiators, 73-71 B. C.  
War against the pirates, 78-67 B. C.  
Third Mithridatic war, 74-64 B. C.  
Gallic wars of Cæsar, 58-51 B. C.  
Civil war (Cæsar and Pompey), 49-48 B. C.  
Cæsar's war in Africa and Spain, 48-45 B. C.  
Civil war (Octavianus and Antony), 44-40 B. C.  
Sicilian war, 38-36 B. C.  
Second war between Octavianus and Antony

(ending with the battle of Actium, after which Octavius was made Emperor, the Senate giving him the title of Augustus Cæsar), 31-30 B. C.

2. Concerning the causes of the rapid growth of the power of Rome, Professor Myers, in his "Outlines of Ancient History" says: "Rome's situation upon the Tiber was without doubt favorable to its early development as a center of trade and commerce, while its distance from the sea protected it from the depredations of the pirates which in early times swarmed in the Mediterranean and desolated the coast cities. But most potent of all influences in shaping the fortunes and character of the inhabitants of the little Palatine town was the necessity which they found themselves under to form some sort of social and political connection with the neighboring communities that held possession of the hills immediately about them. The early circumstances of its national life would thus seem to have given a certain legal and political bias to that Roman genius which was destined to give laws to the world."

#### OLEOMARGARINE BUTTER.

PINEVILLE, Wis.  
Give a description of the manufacture of oleomargarine, when first invented and where, origin of name, etc. M. WHINNEY.

**Answer.**—The process of making oleomargarine was discovered about 1872 by M. Hippolyte Niegé, a French chemist. He was directed by the French Government to find, if possible, a chemical product that would take the place of butter for the poorer classes. By experimenting upon milk he found that it always contained butter-fat even when cows had been for a time wholly deprived of food. He then tried to produce this butter fat from the fat of the cow by chemical process, and finally succeeded in getting a pure, sweet fat, free from all foreign odors, which by churning with milk was converted into palatable butter. Properly speaking the name oleomargarine should be applied only to the butter fat, and the product obtained by churning this oleomargarine with milk is butterine. The name oleomargarine is from the two words oleine and margarine. Oleine is the thin, oily part of fats, and margarine is a peculiar, pearl-like substance extracted from some vegetable oils, and also from some animal fats, the name being of French origin, from margarita, a pearl. It was thought that oleomargarine was composed principally of these two substances, but chemists have since discovered that margarine is not a simple fat, but contains stearine, a substance which does not exist in pure butter fat, so that the name is really a misnomer. The process by which oleomargarine is made may be described briefly as follows: Clean beef fat is thrown piece by piece into large tanks containing tepid water, where it remains for an hour or two, when the water is drawn off and each piece is taken out and thrown into another tank of pure tepid water. It is again thrown into a third tank, and after the three washings the fat is dumped into cars and hauled to the top of the building. Here it is put into a cylindrical trough and is fed piece by piece into a hashing-

machine, where it is cut very fine by revolving knives, after which it is forced out through a fine sieve at the opposite end, and falls into kettles which are jacketed and surrounded by water. This water is heated by forcing steam through it to a temperature of from 114 to 122 degrees Fahrenheit, and great pains is taken to keep it from getting above the latter point, as the lower the temperature at which the fat is rendered the better the product. About 5 per cent of salt is added to the fat when in these kettles, and it is kept continually agitated by machinery, and this with the salt causes the membrane or "scrap" to settle at the bottom and the pure fat to remain on top. The fat is now cooled by drawing off the hot water in the jacket and letting in cold water. It is then drawn off into settling kettles, which are also placed in jackets; here it is thoroughly skimmed and kept at a temperature of 122 degrees F. by hot water in the jackets for three hours. It is then drawn off through a fine sieve into tanks which are immediately removed to the "seeding-room," which is kept at a temperature of 85 degrees F., and here the fat is allowed to solidify very slowly. This process requires from thirty-six to forty-eight hours, and must not be hurried. At the end of this time the fat, which has assumed the consistency of mush, is pressed by being packed in cloths set in molds, the packages then being lifted out and set on plates of galvanized iron in a press. Here by the gradual application of force a pressure of 3,000 pounds to the square inch is secured, and this is kept up until all the butter oil is squeezed out from the packages, and a cake of perfectly dry, hard, white stearine only is left. The butter-oil pressed out is received into a large reservoir and thence passed into clean tierces, where after solidifying it is sealed up for shipment. In this form it can be kept perfectly sweet for an almost indefinite period. When used for butter making it is churned in the proportion of about 442 pounds of butter oil, 120 pounds of milk, 37½ pounds of cream-made butter, and 1¾ ounces of bicarbonate of soda. To this some coloring matter is added and the mixture churned for some fifty minutes, giving as a result a smooth mass resembling an emulsion of cream. This is allowed to flow directly from the churns upon pounded ice or into freezers, which prevents the crystallization of the fat. When oleomargarine was first made it was complained that it always had a gritty taste. This was caused by the crystallizing of the fat, and the method of preventing this by suddenly freezing the mixture was the discovery of Dr. Mott, of New York. This was found to make a great difference in the taste of the mixture, and of course converted it from an unsalable into a salable article. Later experiments by Dr. Mott and M. Niège resulted in the discovery that to put the emulsion into ice-cream freezers and keep it constantly agitated until it solidified was even a better plan than pouring it upon ice. Sometimes this butter is again worked with milk, but this is not usually considered necessary. It is worked over with

revolving butter workers to get the necessary amount of salt well into it, and is then packed in firkins or made into molds. The general impression exists that oleomargarine butter is not cleanly in its constituents, but the fact is that not only must the material used be of the cleanest and purest sort, but the processes must be in all respects cleanly to produce a sweet and palatable substance as the result. As no other result will sell in the market, manufacturers are compelled to see to it that all necessary care is used in its preparation. Science shows that, chemically, pure oleomargarine butter differs but slightly from pure cream butter. By analysis the constituents of cream butter are: Water, 11.968; butter solids, 88.032. Those of oleomargarine butter are: Water, 11.203; butter solids, 88.797. Under the microscope there is no difference perceptible between the two substances.

#### THE CABOTS.

CLINTON, Wis.

Were John and Sebastian Cabot Englishmen or Italians?

*Answer.*—The name of John Cabot, or in the Venetian dialect, Zuan Caboto, first occurs in the archives of Venice, where on March 28, 1476, denization was granted him, according to the law of the State, after a residence of fifteen years. The full entry of his denization would probably have named his birthplace, but this is not to be found; though as he is referred to by contemporaries as a Venetian, we may judge it probable that he was a native of Venice or one of the provinces of Italy. His wife was a Venetian woman. He was a merchant, and subsequent to his long residence in Venice, he lived in Bristol, England. Sebastian Cabot was a son of the foregoing. The date and place of his birth are uncertain. Eden, an old historian, says: "Sebastian Cabotte told me that he was born in Bristowe, and that at 4 years old he was carried with his father to Venice;" but Contarini, the Venetian Ambassador at the court of Charles V., relates in his diary that Sebastian Cabot informed him that he was born in Venice but bred in England. This seems to be confirmed by the record of the denization of John Cabot in Venice in 1476, as, though the exact date of Sebastian's birth is unknown, it is believed to have been between the beginning of 1475 and the close of 1477.

#### HOW TO SECURE A PATENT.

FONDA, Iowa.

Tell us how a patent on an invention may be secured. Is it necessary to send the article itself to Washington?

C. A. FOGELBERG.

*Answer.*—The applicant for a patent is required first to file in the Patent Office a petition on oath or affirmation that the inventor believes himself to be the first to frame the invention, and does not believe that it has been known or used before, and this must be accompanied by a full description of the invention, with drawings and a model where it is possible. It is not at all necessary that the invented article shall be sent to the Patent Office, but if a model, in miniature, can be made of it, that is essential. The application must be in writing, addressed to the Commissioner of Patents, and if the inventor is liv-



ing his signature must accompany it, no matter who makes the application. The description of the invention must specify the manner of constructing and using it so clearly and fully that any person familiar with the art or science to which it pertains can make and use it. These specifications must be followed by the claim, in which the inventor shows very plainly the part, improvement or combination which he claims as purely his own discovery. It is quite important that the specifications should be well and carefully prepared, as patents have often been refused, and indeed have been declared invalid after granting, because of defective specifications. If on examination of specifications and model the invention is found to be quite new, the inventor is so informed, and "letters patent," as the official papers are called, are sent to him on payment of the money fees. A fee of \$15 is required on filing the application, and \$20 more when the patent is issued.

#### COIN AND CURRENCY OF CHINA.

Describe the money used in China and give its value in United States money. HOOPESTON, III.  
C. G. C.

*Answer.*—The only native coin of China is a copper piece called tsien; it is thin and circular, rather more than an inch in diameter, with a square hole in the middle for the convenience of stringing. This is stamped with the Chinese word meaning current, and the name of the province where it is made. Mints for coining cash—as all small money is called—are established in each provincial capital, under the direction of the revenue department of the government. The coin should consist of an alloy of copper, 50 parts; zinc, 41½; lead, 6½, and tin, 2 parts; and its standard weight should be 58 grains troy, but it has been reduced and debased so that those pieces now in circulation are generally under 30 grains in weight, and are mainly composed of iron; and in spite of laws and penalties, a large proportion of the coins now current are coined by private individuals. The value of this coin, if pure, is about 1½ cents of our coinage, but the rate of exchange for the debased specimens usually current in China varies in different provinces at from 900 to 1,800 for a silver dollar. The curious fact that neither silver nor gold have ever been coined to any extent in China is accounted for by S. Wells Williams in his comprehensive work on the Chinese empire, "The Middle Kingdom," by the statement that "the government is not strong enough to restrain counterfeiters, and not honest enough, on the other hand, to issue pieces of uniform standard for a series of years till it has obtained the confidence of its subjects." Dr. Williams thinks that the extension of foreign relations will in time lead to the issue of a sound national currency. There have been two attempts during this century to issue silver coins; some of the value of a tael—about \$1.50—were coined at Shanghai in 1856, and in 1835 there was a large coinage of native dollars, weighing 417.4 grains, at Fuh-kien and Formosa to pay the troops, but these pieces were either melted or counterfeited to such an extent as soon as they appeared that in a short

time they were wholly out of circulation. At present the medium of trade in the open ports is the foreign dollar, which is imported in great quantities from Mexico and the United States, and these are used in all of the important operations of commerce throughout the empire, but are soon converted into ingots, to suit the curious national preference. The person paying them out stamps them with a peculiar die, and after this has been done several times the character of the coin is injured, and the pieces are then taken to be melted, refined, and cast into ingots of bullion, which weigh from five mace (about 75 cents) to fifty taels (about \$75), and the larger pieces are stamped with the district magistrate's title where they are made, and the date, to verify them. Gold bullion is cast into bars like cakes of India ink in shape, each worth about \$15, or hammered into thick leaves. The silver ingots, called sycee, in a pure state are from 97 to 99 per cent pure silver, but they are often debased, and dollars are often counterfeited, so that all classes engaged in trade have their money inspected by regular examiners, called shroffs, who, by practice, become so expert that by the sight alone they can decide on the degree of alloy in a piece of silver, though usually they employ touchstone needles to aid them. All taxes and duties are paid in sycee of 98 per cent fineness, and the revenue department licenses bankers to receive the money, and pays them a small percentage for becoming responsible for the purity of all the bullion that they take in. Banking in China is carried on by private parties altogether, since no charter or warrant from the government would insure any confidence with the people. Private bankers, however, pay certain taxes to the government. All these banking houses issue notes, but over-issue is checked by the supervision of clearing-houses and by general lack of confidence—founded on long experience of the trickiness of human nature—which restricts the circulation of notes always to the town and often to the street or neighborhood in which the bank is situated. This curtailed circulation serves a good purpose in checking counterfeiting of the bills, as in most cases a doubtful bill can be referred directly to the bank whose name it bears. Such is the general apprehension of spurious notes, however, that both law and custom in most cities gives the person receiving a bank-note a claim for a full day upon the person paying it to him, to be reimbursed should the note prove counterfeit. Hong Kong bills, however, circulate on the mainland to very remote districts. In the Southern provinces of the empire, dollars circulate generally, and bank notes are quite unknown. Twice in Chinese history the government has tried the experiment of a paper currency. The Mongol dynasty of the thirteenth century issued an enormous amount of paper money. The great Kublai Khan, who started the scheme of buying treasure with money that cost him nothing, thought that he had discovered the highest secret of alchemy and in his reign of thirty-four years issued \$624,135,500. His successors continued this

manufacture, but at last the people began to object to the scheme and popular discontent waxed to such an extent during 100 years of "flat money" that the Mongol kings found themselves expelled from their native land in 1368. The new rulers were obliged to issue notes for a time to carry on the business of the court, but soon ceased to do so, and paper money was entirely superseded by coin about the middle of the fifteenth century. The Mantchu dynasty, which came into power in 1645, never issued any government paper until 1852, during the Tai-ping rebellion. This currency, however, being known to have no basis of credit or funds, never circulated outside of the capital.

#### FAMILY OF GEORGE III.

BENNINGTON, Kan.  
Give the names, titles, dates of birth, marriage, and death for each of the children of George III., King of Great Britain. Had this King a second wife?  
LEROY DAVENPORT.

*Answer.*—King George III. was married but once. His wife was the Princess Sophia Charlotte of Mecklenburg Strelitz, whom he married Sept. 8, 1761, and who died in November, 1818. The King, then a feeble old man of 82 years of age, followed his consort to the grave Jan. 29, 1820. This pair had fifteen children, the youngest three of whom had died before the parents passed away. Following we give the names of these children in the order of their ages, with the dates, as requested, as nearly as they can be ascertained: 1. George, Prince of Wales, and afterward King, born Aug. 12, 1762, married Princess Caroline of Brunswick in 1795, died Jan. 26, 1830. 2. Frederic, Duke of York and Albany, born in 1763, married Princess Frederica of Prussia, died in 1827. 3. William, Duke of Clarence and afterward King, born Aug. 24, 1765, married Princess Adelaide of Saxe-Meiningen in 1818, died June 20, 1837. 4. Charlotte, born in 1766, married in 1797 to Frederic, King of Wurtemberg, and died in 1823. 5. Edward, Duke of Kent, born in 1796, married Victoria, Princess of Saxe Coburg, Saalfeld, died Jan. 23, 1820. 6. Augusta, born 1768, died unmarried in 1840. 7. Elizabeth, born in 1770, married Landgrave of Hesse Homburg, died in 1840. 8. Ernest, Duke of Cumberland and King of Hanover, born in 1771, married Princess Frederica of Mecklenburg Strelitz, died in 1851. 9. Augustus Frederick, Duke of Sussex, born in 1773, died in 1843. 10. Adolphus Frederick, Duke of Cambridge, born in 1774, married Princess Augusta of Hesse Cassel, died in 1850. 11. Mary, born in 1776, married in 1816 to her cousin, Frederick William, Duke of Gloucester, died in 1840. 12. Sophia, born in 1777, and died unmarried in 1848. 13. Amelia, born in 1783, and died unmarried in 1810. Two other sons died in infancy—Octavius, born in 1779, died 1783; Alfred, born in 1780, died in 1782.

#### LIVING LADIES OF THE WHITE HOUSE.

CHICAGO.  
Tell how many ladies who have presided in the White House are still living, and who they are.  
ELLEN SCOTTON.

*Answer.*—The present living ladies of the White House are, to begin with the present occu-

pant and go back in order of time: Mrs. Cleveland, Miss Rose Elizabeth Cleveland, Mrs. Ellen Arthur McElroy, sister of President Arthur; Mrs. James A. Garfield, Mrs. Rutherford B. Hayes, Mrs. Julia Dent Grant, Mrs. Patterson, sister of President Johnson; Mrs. Harriet Lane Johnson, neice of President Buchanan; Mrs. James K. Polk, Mrs. Julia Gardiner Tyler, and Mrs. Semple, stepdaughter of the first Mrs. Tyler.

#### THE HUNS.

GOLDEN. III.  
Will Our Curiosity Shop give a history of the Huns?  
H. E. SELBY.

*Answer.*—The Huns were a people of Northern Asia, who, in the fifth century, invaded and conquered a great part of Europe. They were probably of Mongolian or Tartar stock, and the theory generally adopted by historians is that the Huns were directly descended from the Hiong-nou, whose ancient seat was an extensive and barren territory north of the great wall of China. These people so overran the Chinese country about 200 B. C. that the great wall was built to keep them out. Their power was broken by subsequent wars with the Chinese, in which the latter, under the valiant Emperor Vou-ti, were successful. After this they were engaged in conflict with another powerful nomadic tribe of Northern Asia and were so reduced in strength and shortened in supplies that they divided their numbers and some 50,000 migrated to the east shore of the Caspian Sea, where they settled and became known as the "White Huns." Later, the main body of the nation moved westward and settled on the shores of the Voiga. In the third century they crossed this river, and invaded the territory of the Alani, a pastoral people living between the Voiga and the Don Rivers, conquered this race and united it with themselves. In the following century, we find the combined nations invading the dominion of the Goths, which then extended from the Baltic to the Euxine. The invaders were successful, and what was left of the conquered Gothic nation was forced to seek an asylum within the bounds of the Roman Empire. The Huns settled on the banks of the Don and the Dnieper, soon became involved in war with the Romans, and in the fifth century, under Attila, attained to a high degree of power, and included or governed all the tribes from the Voiga to the Rhine. Attila also seized the territory south of the Danube, crossed the Rhine, and threatened the existence of the Frankish Empire. The Franks called the Romans to their aid, and at Chalons-sur-Marne was fought in June, 451, the bloodiest battle known to European history, in which the Huns were defeated. Attila's army is said to have been 700,000 strong, and probably the armies allied against him aggregated nearly as large a force. But the Hunnish Empire, after Attila's death, fell to pieces, and the people themselves were swallowed up by other tribes. Historians are not agreed on the question whether the modern Hungarians or Magyars are descendants from the race of the Huns or not. The White Huns of the Caspian shore, at about the time the other part of the tribe was invading



Europe, spread themselves over all of Eastern Persia and the Indian border. Roman historians describe the Huns as hideous in appearance, with broad shoulders, flat noses, and small black eyes deeply buried in the head. Hideous legends were coined concerning their ancestry, ascribing it to the union of the witches of Scythia with infernal spirits, and such was the terror inspired by the repulsive appearance and savage manners of the barbarous race that these tales were readily believed.

## WEATHER BUREAU SIGNALS.

RUNNELLS, Iowa.  
Give a brief explanation of the weather signals displayed from U. S. signal service stations.

T. H. WINFREY.

*Answer.*—The cautionary signals of the weather bureau are of two kinds: 1. Those premonishing dangerous winds to blow from any direction, and (2.) Those premonishing off-shore winds likely to drive vessels out to sea. Both kinds are needed and used on the shore of seas and lakes, for the guidance of mariners. These signals are only used when a wind storm of at least thirty-five miles an hour is approaching. The first, known distinctively as the "cautionary signal," is a red flag with a black square in the center in the day time and a red light by night. The second, or cautionary off-shore signal, is a flag with two stripes of black and white, indicating direction of the wind by its position with reference to the cautionary signal always displayed with it, and also by position of the stripes. That is, the black stripe is above the white when northerly winds are expected, and below for southerly winds, and the direction signal is shown above the cautionary signal when easterly winds are impending and below for westerly winds. These are all day time signals; there are no night signals for wind direction, though a white light above a red light by night indicates that while the storm has not yet passed the station, and dangerous winds may yet be felt there, they will probably be from the north or west. There is also an on-shore wind signal which is hoisted only on the lakes when a wind on the water of twenty to thirty-five miles an hour may be expected to blow on shore, a wind dangerous to small vessels, barges, and tows. This is a flag of four alternate squares of black and white. In the night time this is represented by a white light.

## THE SEPTENATE BILL.

ONEIDA, Kan.  
1. Give an account of the septenate bill in Germany. 2. Also of the May laws. C. SHINN.

*Answer.*—1. The military septenate of Germany was first passed in 1880. It was a law increasing the strength of the army and fixing the annual appropriation and the annual conscription for a term of seven years. The law went into force April 1, 1881, and was to expire March 31, 1888. In November last, the Bulgarian complication creating some alarm of impending war in Europe, Prince Bismarck was instrumental in bringing forward a new septenate, which provided for a still further increase of the army for the next seven years. The increase met with very earnest opposition, both because of the ad-

ditional armament provided for, and because the principle of the bill—putting the army out of the control of the Reichstag for seven years—was regarded as a step toward despotism. The Emperor, in his speech at the opening of the Reichstag, Nov. 25, 1886, urged the increase of the army as a measure necessary to insure peace. On the beginning of debates all other matters were set aside for the discussion of this bill. The opposition desired to cut down the increase to a term of three years, but Prince Bismarck was determined to bear down all objection. Jan. 11 he addressed the Reichstag, threatening it with dissolution if it failed to pass the bill. A vote was taken on the 14th, and the amendment, limiting the duration of the bill to three years, was carried by a large majority. Scarcely had the result been announced when Prince Bismarck arose and read the imperial decree dissolving the assembly. The election for the new assembly, however, which was held Feb. 21, resulted in a pronounced victory for the government party. The new Reichstag was opened March 3. The septenate bill was introduced again March 7, and reached its third reading four days later, when it was passed by a vote of 227 to 31. Eighty-four members abstained from voting. 2. See Our Curiosity Shop book for 1886 for full account of the May laws.

## JAVA.

FEAR CREEK, Wis.  
Give a brief account of the island of Java, its present condition, inhabitants, etc. L. W. BALDWIN.

*Answer.*—Java is recorded as the most fertile and prosperous tropical island on the globe. It is south of Borneo, and the fourth island of the Malayan archipelago in size, having an area of 50,260 square miles. It is a colonial possession of Holland. The surface of the island is mountainous, a range of lofty peaks running from one end of the island to the other, and another range skirting the south coast. All of these mountains are of volcanic formation, and there are on the island thirty-eight volcanoes, the most of them constantly active. Some of the most terrible eruptions on record have occurred on this island, among which may be mentioned the outbreaks of the volcano Papandayang in the year 1772, of Galungrong in 1822, and Krakatoa in 1883. Between the peaks of the mountains in the central part of the island are several plateaus which are very fertile, and have a delightful climate, owing to their elevation above the hot districts of the shore. Along the north side of the island is a long, low, and very fertile plain. All of the island is well watered. The seasons are two, the wet and the dry, and the temperature of the island is very equable. All tropical fruits, birds, and animals abound in the lowlands, and on the high plateaus all grains and fruits of temperate climates can be successfully raised. Java is one of the principal coffee-growing countries in the world; sugar is next in importance; then comes rice, of which two crops are annually raised; indigo, pepper, tea, and tobacco are also exported. The population of Java is estimated at over 17,500,000. About

30,000 Europeans reside on the island; there are also about 190,000 Chinese, and some 20,000 Arabs and other foreign orientals; the rest are natives. The Javanese are almost entirely occupied in agriculture, though they have some knowledge of the mechanic arts, and make bricks and tiles, build houses and boats, and work in metals with some skill. The women of the country also weave a stout cotton cloth, and make a coarse silk cloth from raw silk imported from China. The ancestors of the present race of Javanese must have had considerable knowledge of architecture, judging from the remarkable specimens of ancient temples, most of them in ruins, to be seen throughout the island, but this knowledge has been entirely lost. The Javanese have made some progress in music, of which they are passionately fond, and they have both wind and stringed instruments. In religion the Javanese are Mohammedans, this faith having been established among them by the Arabs in the fifteenth century. The principal unit in Javanese politics is the village, whose officers are all elected by the people, and are charged with the collection of the taxes and the maintenance of public order. The native rulers are allowed by the Dutch to retain their rank and nominal power as regents, but the real power is in the Governor General appointed by the Netherlands Government, who is assisted by a vice president and a council of four, and has his orders directly from the King of Holland.

#### ALIEN LAND HOLDINGS.

Please give the specifications of the United States laws concerning the purchase of lands in this country by aliens.

CHICAGO.

SUBSCRIBER.

*Answer.*—There was no restriction on the purchase or ownership of land in this country by citizens of foreign countries, until the passage of a law on the subject by the last Congress. This bill originated in the House, was amended in the Senate, and was approved by the President, March 3, going into effect immediately upon its passage: It declared: "That it shall be unlawful for any person or persons not citizens of the United States, or who have not lawfully declared their intention to become such citizens, or for any corporation not created by or under the laws of the United States or of some State or Territory of the United States, to hereafter acquire, hold, or own real estate so hereafter acquired, or any interest therein, in any of the Territories of the United States or in the District of Columbia, except such as may be acquired by inheritance or in good faith in the ordinary course of justice in the collection of debts heretofore created: *Provided*, That the prohibition of this section shall not apply to cases in which the right to hold or dispose of lands in the United States is secured by existing treaties to the citizens or subjects of foreign countries, which rights, so far as they may exist by force of any such treaty, shall continue to exist so long as such treaties are in force, and no longer."

Also, "That no corporation or association more than 20 per cent of the stock of which is or may be owned by any person or persons, corporation or corporations, association or associations, not citizens of the United States, shall hereafter

acquire or hold or own any real estate hereafter acquired in any of the Territories of the United States or of the District of Columbia."

And it further provided that all property acquired or held in violation of the above provisions shall be forfeited to the United States, and that it shall be the duty of the Attorney General to enforce such forfeiture by legal process. It may be noted that the bill forbids not simply large holdings, such as have been purchased by wealthy foreign citizens in Montana and other Territories, but prevents the purchase of so much as an acre of land by an alien. The only other instance of the adoption of so extreme a law has been in the negro republic of Hayti.

#### VARIETIES OF CORN.

Where did corn first originate, and how were the different varieties, as dent, pop, sweet corn, etc., produced?

ATLANTIC, IOWA.

R. D. MCGEEH.

*Answer.*—Some writers assert that maize, or Indian corn, was known in the early history of the world to the Chinese, founding their theory on drawings of a similar grain in ancient Chinese manuscripts. If this were true, the culture of the grain was wholly lost in later years. There has been much discussion on the subject, but Alphonse de Candolle, who may be regarded as an authority on the subject, in his valuable work, "Origin of Cultivated Plants," says: "Maize is of American origin, and was not introduced into the old world until after the discovery of the new." It was found by the first explorers of the Western Hemisphere to be in cultivation by the natives, from New England to Chili, but it is thought to have originated in the highlands of Peru and Bolivia, as traces of it have been found there in ancient tombs and in geological deposits with the earliest traces of man in that locality. As to the present existing varieties of corn, it may be noted that the maize plant is affected in a remarkable degree by climate and soil, and a local variety can be established at any time by the selection and continuous sowing for a few years, of seed showing any striking peculiarity. All the varieties in cultivation in the United States, from the smallest kind of pop-corn to the enormous specimens of maize grown in the Western and Southern States, are of but one species, and owe their differences to peculiarities of climate and soil and to continued selection in cultivation.

#### SIR THOMAS MORE'S UTOPIA.

Please explain the Utopian scheme of Sir Thomas More.

SCOTLAND, D. T.

C. C. K.

*Answer.*—The word Utopia is from the Greek words *ou*, not, and *topos*, a place, meaning, therefore, nowhere. Sir Thomas More gave the name to an imaginary island, on which he placed the scene of his romance of the "Happy Republic." He represents the island as having been discovered by a companion of Amerigo Vespucci. This island he described as the abode of a happy society, which by virtue of its wise organization and legislation was wholly free from the harassing cares, inordinate and greedy desires, and attendant customary miseries of mankind. All the



property of this republic belonged to the government, and each inhabitant by his labor contributed to increase the common store, and drew therefrom what he needed for his own wants; and when his necessities were provided for he desired no more. Merit was the sole ground of promotion in all departments of the society, and wealth was neither sought for nor desired. Passion, malice, envy, and hatred were unknown, and all the members of the republic were contented, free from covetousness and ambition. The utmost toleration in religion existed, some members of the republic worshipping the deity and others the sun and stars. So different was this ideal picture of society from anything that man, in his natural state, has ever framed that the name gave a new word to the language, and all projects for the improvement of society which are obviously impracticable, have come to be called Utopian.

## GOVERNOR BENEDICT ARNOLD.

ROCKFORD, ILL.

Give a sketch of Governor Benedict Arnold, and state how Benedict Arnold, the traitor, was related to him.

F. C. P.

*Answer.*—Governor Benedict Arnold was the eldest son of William Arnold, the founder of the family in Rhode Island, who was a native of Leamington, England, and settled in Providence in 1636. Benedict was born in England in 1615, and was married in Providence in 1640. In 1657 he became one of the purchasers of Connecticut Island. He acquired an excellent knowledge of the Indian tongues, and thus was able to be of much assistance to his fellow colonists. He succeeded Roger Williams as President of the colony under the first charter, from 1663 to 1666. Under the second charter he was several times elected Governor, serving from May, 1669, to 1672; also from 1677 to June, 1678, when he died. Governor Benedict Arnold's eldest son, named Benedict, was a member of the Assembly, and his son, also named Benedict, moved to Norwich, Conn., where he married a young and beautiful widow, and their second son—the first, who bore the same name, having died in infancy—was Benedict, famous as a soldier and in famous as a traitor in the revolutionary war.

## THE LEGEND OF TANNHAUSER.

LOGANSPOUT, IND.

Will Our Curiosity Shop give the legend of Tannhauser?

A. T. BRINGHURST.

*Answer.*—Sir Tannhauser was a legendary hero of Germany who won the affections of a fair maiden, Lisaura. But being filled with a passion for adventure the knight set out to visit the mountain where Venus was said to dwell, vowing that he would kiss the queen of love and beauty herself. When Lisaura heard of this she committed suicide. Tannhauser succeeded in entering the enchanted mountain, but after living there for some time became weary of Venus' company and by a crafty excuse obtained permission to visit the upper world again. When he had returned to earth and found that he had been the cause of Lisaura's death he went to Pope Urban for absolution. His Holiness refused to grant it, saying: "You can no more hope for mercy than this dry staff can be expected to

bud," wherefore the knight returned to the enchanted mountain. In a few days the papal staff actually did bud, and the Pope then sent for Sir Tannhauser, but the knight could not be found and was never again seen on earth.

## FORTY-NINTH ILLINOIS INFANTRY.

SMITHVILLE, ARK.

Give a history of the Forty-ninth Illinois Volunteers, with list of officers and names of battles.

J. W. WATERS.

*Answer.*—The Forty-ninth Illinois Infantry was organized at Camp Butler, and mustered in Dec. 31, 1861. Its officers then were Colonel William R. Morrison; Lieutenant Colonel Phineas Pease; Major W. W. Bishop; Adjutant James Morrison; Quartermaster James W. Davis; Surgeon William H. Medcalf. Feb. 2, 1862, the regiment was ordered to Cairo, and the following week accompanied Grant's army to Fort Henry. At Fort Donelson it was in the thickest of the fight, and Colonel Morrison was wounded. At the battle of Shiloh it lost seventeen killed and ninety-nine wounded. Was also at the siege of Corinth, and in June following was transferred to the camp at Bethel, and was a part of the division of Brigadier General John A. Logan. Early in 1863, however, it was transferred to General W. S. Smith, and it took part in the expedition against Little Rock, Ark., in August. In January, 1864, three-fourths of the regiment re-enlisted. It was then made a part of General A. J. Smith's division and, going to Vicksburg, took part in the Meridian campaign. It was with the Red River expedition, at the capture of Fort de Russey, and at the battle of Pleasant Hills, and did not secure its veteran furlough until the latter part of June. The non-veterans remaining took part in the battle of Tupelo. After the veterans rejoined their command, the regiment was sent to Missouri to harass General Price for a time, and, returning to Tennessee, participated in the battle of Nashville, was on garrison duty through the spring and summer of 1865, and mustered out Sept. 9 at Paducah and sent home.

## EUGENOL.

VIRIDEN, ILL.

What is eugenol, and for what is it used?

MARY SMITH.

*Answer.*—Eugenol is a concentrated, oily extract, made from cloves. Its especial use is as an antiseptic in dentistry, for which purpose it is said to be superior to any other substance ever used. It is not a caustic like carbolic acid and creosote, and does not destroy the tissues. But it is found to thoroughly disinfect the decaying tooth, to arrest the progress of ulcers, and thus, while not properly an anæsthetic, it serves the same purpose in the allaying and healing of pain.

## ZINCOGRAPHIC COPYING PROCESS.

RUSHVILLE, NEB.

Give directions for the process used in copying plans, maps, etc.

D. J. WYNKOOP.

*Answer.*—These designs are often drawn in copying ink, when copies are made, as many as desired, by moistening the original design and putting it under a copying press. But if the map or engraving is printed, and it is desired to reproduce it without the cost of an engraved copy, the sheet is first moistened with dilute acid, which takes hold of the paper in the spaces, im-

pairing its texture, but does not affect the parts covered with ink. After laying it a few moments between sheets of blotting paper to remove superfluous moisture, the paper is carefully placed on a zinc plate and put under a press. When taken from this the printed letters are found to be in reverse on the plate, and the paper which adheres to them must be very carefully removed. A preparation of gum is then lightly applied with a roller, after which the letters are well inked. Dilute acid is then applied around the letters and lines with a brush, which causes a fresh application of ink to adhere to the letters only, and not to the zinc surface. The plate is then put, with the sheet of paper on which the map or design is to be printed, under pressure, and every letter and mark is found to be as clearly brought out as though printed from an engraved metal plate. Of course, but a limited number of impressions can be taken from this prepared plate, and none others will have the clearness of the first; but all will be correct copies, and the process is only used where a few copies are desired.

#### THE "PLAN OF CAMPAIGN."

Define what has been known as the Irish "plan of campaign."

PORT SCOTT, KAN.

H. K. COWAN.

*Answer.*—After the defeat of the Gladstonian scheme for the settlement of the Irish difficulties, and the reaccession of the Conservative party to power, the Home Rule party in Ireland decided, as a matter of revenge, to combine against the collection of rents. They decided to reduce all the rents—from 20 to 40 per cent, according to the poverty of the district—and ordered that these reduced rents should be paid into the hands of trustees, to whom the landlord was referred when he called to collect them. If the landlord would agree to accept the reduction as payment in full, the money was paid over to him, but if he refused he was to get nothing, and the money tendered was to be used to protect the tenant against any legal measures which he (the landlord) might take. The government declared the whole system illegal, and that the persons acting as trustees thereby laid themselves open to arrest on the charge of "conspiracy to defraud." The cases then were appealed to the courts, and were also decided adversely to the tenants, but the plan was adhered to and defended by many of the Home Rule leaders, Dillon and others, because of the power that it gave them over the landlords.

#### THE CURVED PITCH.

Is the pitching of a ball on a curve possible? Give the scientific explanation of it.

CHICAGO.

M. REMBIE.

*Answer.*—The philosophy of curved base ball pitching is quite simple. The ball, as it takes its horizontal flight through the air from the hand of the thrower—technically known as the pitcher—is retarded in its forward motion by the resistance of the air, which not only exerts a pressure on the face of the ball, but also a resisting force on its sides by friction. Now, if the ball is simply thrown forward without any special bias being given it, the friction of the air is equal on each side of it; but if it be made to rotate on its

own axis from right to left or left to right, the conditions are at once materially changed, inasmuch as in the latter case one side of the ball's surface is made to move forward through the air with twice the rapidity of the other side, and to the extent of this increased lateral friction is the ball retarded in its progress on the side on which the increased friction bears. The result of this changed relation is naturally a curve in the line of its delivery in the direction of the side on which its progress has been retarded.

#### RAISINS.

STODDARD, WIS.

Tell something about the process used in drying different kinds of raisins. What gives each variety its name?

E. G. WHITE.

*Answer.*—Several varieties of grapes are used in making raisins, but the different names of the varieties of dried fruit are usually given from the locality whence they are imported. The common mode of drying is to spread the bunches on platforms or suspend them on lines in heated rooms, where they are allowed to shrivel slightly. They are then dipped in a lye of wood ashes and barilla, to each four gallons of which a pint of oil and a handful of salt is added. This causes the sugar to exude through the skin, and makes a slight varnish on the outside of the fruit. In this way the Valencia raisin, the favorite cooking raisin, is prepared. It is shipped principally from Valencia, Spain. Malagas also take their name from the Spanish port, whence they are most largely sent. These are made from a richer grape than the Valencia, and are dried on the vine in the sun. The grapes do not fall off when ripe, so the stem is twisted and the grapes shrivel by the evaporation of their own water. In this way the fruit keeps more freshness and bloom than in any other, and there is very little exudation of sugar. These raisins are also called muscatelles, and are the favorite table raisins. Spain is still the greatest producer of raisins, though large quantities are also raised in Turkey, and California is becoming an important locality for the production of this favorite fruit. The Sultana or seedless raisins are produced in Turkey. These are cured in the sun, a slight sprinkling of oil being employed, to prevent the too great evaporation of the moisture, and also to assist in the preservation of the fruit when packed and shipped. The Elms raisins are also produced in Turkey, and are used chiefly for export to distant colonies and for ships' stores. As their name implies, they are picked raisins, and are packed specially for ship use from the vines of the Carabournna and Vourla districts in Asia Minor. The greater proportion of the raisins from Smyrna are known as "Chemse," the name of an island near the mainland. These are the Turkey grapes, pure and simple, without selection, picking of stalks, or any manipulation whatever. They find a ready market in Eastern countries, but are the special feature of fruit trading between Turkey and German ports. There are vast districts in Persia where raisins are cultivated, but the difficulty of getting them to market is so great that it does not pay to export,



consequently they are used for distilling and local purposes. At the Cape of Good Hope raisins are produced which find a market chiefly in Australia. Distillation of raisins into wine is becoming quite an important business, the flavor of the dried fruit giving a very pleasant taste to the beverage. The raisins used for this are the small black Smyrna raisins. The dried fruit known to commerce as the Zante currant is a variety of raisin. It is not made from a currant, but from a very small grape, dried in the sun. These small raisins were at first called Corinth, because they were imported from the port of Corinth. Their similarity to currants caused the name to be corrupted later, as many supposed them to be a kind of dried currant.

## NATURAL SOAPS.

Will you give a description and history of soapina, which I can find mentioned in no cyclopedia?

E. P. BROWNE.

*Answer.*—Various saponaceous compounds have been patented for sale under the names "soapina," "soapine," or similarly manufactured words. These are usually made from some natural product which has the appearance and qualities of soap. In the West Indies and South America grows the soap tree (*sapindus saponaria*), whose pulpy fruit is generally used by the natives instead of soap in washing. This substance, if used in excess or too frequently, injures the texture of the fabric, but it has such excellent cleansing qualities that it will clean as much linen as sixty times its weight of soap. This saponaceous quality belongs in a greater or less degree to a number of other species of the genus *sapindus*, all of which are tropical except *sapindus merginatus*, which is found in our Southern States. Then there is a tree in Peru, *quillaja saponaria*, whose bark in infusion yields a soapy liquid much valued for washing woollens. This bark is extensively imported to Great Britain and also to other countries for this purpose. The juice of the soapwort (*saponaria officinalis*), a weed well known in this country as well as in Great Britain and Europe, whose common name is the "Bouncing Bet," forms a strong lather with water, and was much valued by our grandmothers for use in scouring nice dresses. In California the roots of the phelanguium pomaridianum, which grows there abundantly, are much used for washing clothes. This plant has a strong odor of brown soap in its leaves and stem, as well as the roots. The Egyptian soap-root (*gypsophila struttium*) and the Spanish soap-root, of the same genus, have been employed for washing from time immemorial in Southern Europe and in Egypt, and are to some extent exported for use in cleansing fine articles. Some of the tropical South Sea Islands produce a species of vine (*vitis saponaria*), the thick part of whose stem, cut into pieces and softened by cooking on hot stones, produces in water a rich lather like that of soap. The berries of the solarium saponaceum, which is found in South America and the islands of the Caribbean Sea, are also used as a soap substitute. There are bodies of water, also, which are so strongly alkaline in their nature

that greasy fabrics rubbed in them produce a strong lather of a cleansing nature.

## EARLY EGYPTIAN HISTORY.

JOLIET, ILL.

Is it a fact, as stated in your article on Ethiopia, sometime ago, that fortresses were built at the second cataract of the Nile 3000 B. C., that is, long before the flood, or the birth of Noah? Is there not an error somewhere?

JOHN SMITH.

*Answer.*—The dates of early Egyptian history are very startling to those who have been accustomed to regard the Scriptures as the only record of early civilizations. The fact however, is that the civilization of Egypt enormously antedates that of the Hebrews, and the written records of Egyptian historians is better substantiated than that of the sacred writers, by means of the inscriptions found in ancient Egyptian tombs and temples. The extracts from the writings of the High Priest Manetho, who lived about 280 B. C., have given Egyptologists a basis of history to work on in computing the records of early Egyptian history. His table of the dynasties of Egypt, which traces the kings of that country back to 5004 B. C., has been found very valuable, and discoveries on monuments and tombs have shown its general authenticity. The second king of the second Egyptian dynasty, about 4700 B. C., built the pyramid at Sakkarah, the oldest monument in Egypt. The kings of the third dynasty—from 4449-4235 B. C.—are known to have subdued the Lybians and some of the wandering tribes of Arabia. The pictures on the tombs of the late kings of this dynasty show Egyptian society as completely organized as it was 4,000 years later. Nearly all the animals now used by man were domesticated, and the Egyptian language seems to have been completely formed. During the fourth dynasty, 4235-3951 B. C., the three great pyramids were built; also the great Sphinx at Gizeh, and an enormous temple near it, which was buried for centuries by the sand of the desert, but has recently been discovered and unearthed. Many monuments of the fifth dynasty also exist, 3951-3703, and from the sculptures and paintings in the tombs it is plain that a high state of civilization then existed, and that art had attained a remarkable degree of excellence. Writings on papyrus of this era have been found, among others a book written by an old man of the royal family, which is a sort of hand-book of good manners for young people. The sixth dynasty had some powerful kings, and left many monuments of their reign. The last member of this family to hold the regal power was a woman—the Queen Neit-aker, called by the Greek historians Nitocris. During the four dynasties which followed, a term of nearly 500 years, disorder and weakness seems to have prevailed throughout the kingdom, and very little is known of the real history of the time. The eleventh dynasty ushered in a period of power for the Egyptian kingdom which, with brief periods of weakness, lasted many centuries. The connection of Egyptian with Bible history begins with the last king of the seventeenth dynasty, King Apepi, who is considered by many authorities to have been the Pharaoh in

whose reign Joseph came into Egypt, about 1720 B. C. An interesting point in Egyptian history is the fact that new discoveries of ancient monuments are continually adding to our knowledge of it. For instance, within the last few years a number of royal tombs have been discovered and opened, among them one containing the mummy of the Pharaoh of the Exodus. These tombs contain many articles of manufacture and papyrus manuscripts, and the writings and inscriptions are being carefully deciphered by scholars who have made deep study of Egyptian records.

#### THE GERRYMANDER.

CAMPUS, Ind.  
What is the origin and exact meaning of the word gerrymander?  
J. LITTLE.

*Answer.*—The history of the word gerrymander is interesting. In 1810 the anti-Federalists, or Republicans, as they were then called, after a bitter contest, elected their candidate for Governor, Elbridge Gerry, and a majority in both houses of the Massachusetts Legislature. In order to maintain this majority in the future, they proceeded to re-arrange the Senatorial districts of the State, which had hitherto been formed without any division of counties, by dividing counties so as to secure a Democratic majority, even though the counties were, in reality, strongly Federal in sentiment. The Federalists protested, but in vain: the divisions were made without even a consideration of the propriety of the act; the work was sanctioned by the Governor, and became a law by his signature; wherefore his political opponents soundly castigated him through the newspapers and at public meetings. In Essex County the arrangement of the districts in relation to the towns was singular and absurd. Russell, the veteran editor of the Boston *Sentinel*, who had strenuously opposed the scheme, took a map of that county and coloring the selected towns, hung it on the wall of his editorial room. One day Gilbert Stuart, the eminent painter, was in the room, and looking at the map remarked that the colored townships resembled some monstrous animal. He took a pencil, and with a few touches drew a head, wings, claws, and tail. "There," said Stuart, "that will do for a salamander." Reynolds looking at the hideous figure exclaimed, "Salamander! Call it gerrymander." An engraved copy of this map was widely circulated by Russell, and the word was immediately adopted into the national political vocabulary as a term of reproach for those who change boundaries of districts for a partisan purpose.

#### THE AURORA BOREALIS.

GLENVILLE, Mich.  
How is the aurora borealis supposed to be caused? What are the latest scientific theories concerning it? Is it true that artificial auroras can be formed by means of electricity?  
STUDENT.

*Answer.*—Various theories have been framed in times past concerning the aurora. It was, by the ancients, thought to be of supernatural origin, but with the discoveries of modern times a natural explanation of it was sought. The first theory was that it was caused by phosphoric gases escaping from the earth at the poles. Later different theories accounted for it by the radiation of light from the solar corona, or reflection

from a belt of atoms thrown off by the earth. But since the discovery of electricity, all speculation on the nature of the aurora has taken in that force as a principal factor, and modern experiments have been especially turned to securing proof of the electrical nature of the auroral display. Recent expeditions to the arctic region, where alone the aurora can be seen in its perfection, have added numerous facts for the generalization of the scientists. It is now believed that the altitude of auroras is not great, that it does not exceed that of the zone of clouds. M. de la Rive, a Genoese scientist, has made many important observations in visits to the polar regions, and his theory is generally accepted. He says that the aurora is caused by the recombination of the positive and negative electricity, always to be found in the upper and lower strata of air, respectively. The union takes place more readily in the dry air of the north, and is visible only when the air is filled with fine, transparent, microscopic needles of ice, which also favor the formation of the lunar halos, seen so frequently in cold regions. Both M. de la Rive and M. Lenstrom have produced miniature auroras by means of electrical apparatus. M. Lenstrom's experiments, which were made in Finland, in 1882, are thus described: "He surrounded the peak of a mountain with a coil of copper wire, pointed at intervals with tin nibs. He charged the wire with electricity, and nearly every night produced a yellow-white light on the tin points, in which the spectroscopic analysis revealed the greenish yellow ray that characterizes the aurora borealis. On the peak of Pietarintunturi, in 78° north latitude, he was especially successful, an auroral ray making its appearance directly over and about 150 yards above the copper coil." In high latitudes, a faintly luminous arc about the magnetic pole as a center was observed by the explorer Nordenskjöld, who has advanced the theory that there is a permanent luminous corona encircling the magnetic pole. This, though it can not be seen when the auroras are visible, is yet the cause of all auroral displays. This theory has, however, not yet been sufficiently tested for acceptance.

#### HOW THERMOMETERS ARE MADE.

SCHOYLER, Neb.  
Give a description of how thermometers are made and graded, and tell why they vary so much at the same temperature.  
F. F. LOOMIS.

*Answer.*—If thermometers were all of uniform caliber and graded accurately there would, of course, be no difference in their records. But the fact is that many are imperfectly made and carelessly graded, and these, of course, will give widely differing results. The first point in the construction of the mercurial thermometer is to see that the tube is of uniform caliber throughout its whole interior. To ascertain this a short column of mercury is put into the tube and moved up and down, to see if its length remains the same through all parts of the tube. If a tube whose caliber is not uniform is used slight differences are made in its graduation to allow for it. A scale of equal parts is etched upon the tube, and from observations of the inequalities



of the column of mercury moved in it a table giving the temperatures corresponding to these divisions is formed. A bulb is now blown on the tube, and while the open end of the latter is dipped into mercury heat is applied to the bulb to expand the air in it. This heat is then withdrawn, and, the air within contracting, a portion of the mercury rises in the tube and partly fills the bulb. To the open end of the tube a funnel containing mercury is fitted, the bulb placed over a flame until it boils, thus expelling all air and moisture from the instrument, and, on cooling, the tube instantly fills with mercury. The bulb is now placed in some hot fluid, causing the mercury within it to expand and flow over the top of the tube, and when this overflow has ceased the open end of the tube is heated with a blow-pipe flame. To graduate the instrument, the bulb is placed in melting ice, and, when the top of the mercury column has fallen as low as it will, note is taken of its position referred to the scale on the tube. This is the freezing point: it is marked as zero on the thermometers of Celsius and Reaumur, and as 32 deg. on the Fahrenheit system. To determine the boiling point, the instrument is placed in a metallic vessel with double walls, between which circulates the steam from boiling water. Between the freezing and boiling point of water, 100 equal degrees are marked in the centigrade graduation of Celsius, 180 degrees on the Fahrenheit plan, and 80 degrees on the Reaumur. On many thermometers all three of these graduations are indicated on the frame to which the tube is attached. Some weeks after a thermometer has been made and graded it may be noticed that when the bulb is immersed in pounded ice the mercury does not quite descend to the freezing point. This is owing to a gradual expansion of the mercury which usually goes on for nearly two years, when it is found that the zero point has risen nearly a whole degree. It is then necessary to slide down the scale to which the tube is fastened, so that it will read accurately the movements of the mercury. After this change, the accuracy of the thermometer is assured, as there is no further expansion of the mercury column.

#### THE RUBY MINES OF BURMAH.

CHICAGO.

Give a description of the ruby mines of Burmah, recently taken possession of by the British army.

M. M. HURD.

*Answer*—Though nearly every work on precious stones contains some mention of the famous mines of Pegu in Burmah, but very little has been actually known concerning either the location or the yield of the mines. Legends of their wonderful riches were told by travelers in the East as early as the sixteenth century, but M. Tavernier, who traveled in the Orient about 1760, was the first to give any trustworthy information concerning the mines. He did not see them, but gives his description from hearsay. He locates the mines in a mountain, twelve days' journey from Siren—the modern Siriam—and says the country is one of the poorest in the world, pro-

ducing nothing but rubies, and these in quantities not exceeding 100,000 crowns per annum in value. Father Guiseppi d'Amato, in 1830, actually visited the mines. In his account he places them seventy miles northeast of Mandalay. The "gem gravel," he says, is reached by pits from twenty to thirty feet in depth, but is not very extensively worked because of the influx of water, and the imperfect methods of mining used. From this account and that of M. Bredemeyer, who in 1868 spent some time at other mines in the Sagyin hills, about sixteen miles from Mandalay, all that is actually known of the Burmah ruby mines is derived. The gems lie in a valley, about a hundred miles square, surrounded by nine mountains. They are found at varying depths—some quite near the surface, others twenty feet down. The natives can not dig much deeper for them, because they do not know how to keep the water out of the mines. Sapphires, topazes and emeralds are also found in the mines. The majority of the rubies found are less than one-fourth of a carat in weight, and the larger ones are generally flawed. Sapphires, though relatively rare, are generally of larger size. The revenue from the mines constitutes a royal monopoly, and amounted, thirty years ago, to from \$65,000 to \$75,000 per annum. Considering the difficulty of carrying on the mining work, the cost of securing the conveniences of life in those remote districts, and, more than all, the unhealthiness of the locality, this return is not large. The British Government has leased the mines for a term of years to a firm of wholesale jewelers in London.

#### SERFDOM IN RUSSIA.

PORTLAND, Mich.

Were the peasants and serfs of Russia the same, or were there also peasants who were not serfs?

MRS. J. B. UTES.

*Answer*.—In Russia serfdom was not known until the sixteenth century, though slavery had long existed under certain conditions. The princes of the different provinces of the country in its early history were very despotic and cruel and therefore were often in fear of their lives from insurrections among the people. They therefore kept large guards of soldiers, drawn from families of nobles, and rewarded the services of these with titles and large grants of land. These estates were tilled by the peasants, who for several centuries were free to choose their own masters, and go from the service of one estate to that of another as they pleased. In the sixteenth century, by an edict of the Czar Boris Godunoff, the peasants were fastened to the soil, that is, they and their descendants were forbidden to leave the service of the land holders for whom they were working when the decree was made. The object of this decree was to increase the revenues of the crown, as, while the peasants were allowed to move about, they actually formed a large body of wanderers, constantly avoiding all payment of taxes. But the effect of the law was to greatly enrich the landowners, and to degrade the free peasants into the condition of serfs. All the rural population were subject to this decree,

except those persons living upon the lands still owned by the crown. Peter the Great made laws transforming all the serfs on private estates into chattels to be bought and sold with the land. The peasants on the crown domains were still legally free, but whenever the Czars rewarded their favorites with estates from the government lands, the peasants on them were converted into serfs. The peasantry on the crown lands remained free, but these, before the emancipation of the serfs was decreed in 1861, had been reduced to only a small comparative number.

#### THE TRIAL OF AARON BURR.

CENTREVILLE, Mich.  
Give brief sketch of the trial of Aaron Burr for treason.  
W. F. WALL.

*Answer.*—Immediately upon the close of his term of office as Vice President, Burr started on an expedition to the Mississippi Valley, to work up among the people of that locality his scheme for establishing an independent republic west of the Mississippi. He found a number of citizens and some government officials ready to fall in with his plans, and there seems little doubt that for a time James Wilkinson, General-in-chief of the army and Governor of Louisiana Territory, was inclined favorably toward the scheme. Probably this was because he was not aware of its extent and enormity at first, for, later, he made every effort to thwart the plan, and it was through his information that the attention of the government was called to Burr's plots. In November, 1806, Burr was arrested and summoned before a grand jury at Frankfort, Ky., but no bill was found against him, owing to difficulty of procuring witnesses, and he was released, and his friends celebrated his triumph with a grand ball. But meanwhile President Jackson had commissioned Graham, the Secretary of the Orleans territory, to investigate the reports about Burr, and immediately afterward he issued a proclamation against "an unlawful scheme set on foot for invading the Spanish dominions." Graham, securing from the Legislatures of Ohio and Kentucky the requisite authority, seized a number of boats on the Muskingum and Ohio Rivers which Burr had fitted out for his expedition. Burr, hearing of these seizures, made his escape to the west shore of the Mississippi, but a body of militia was sent, under the President's proclamation, to arrest him. He had previously had all his cases of arms thrown into the river, and therefore assumed the pretense of utter innocence of any hostile intentions, demanding that he and all those with him should be searched, and his boats examined for evidence of his revolutionary designs. As nothing of the sort was found, a strong sentiment in his favor was aroused. He was brought before the Supreme Court of the territory, but the Grand Jury not only refused to bring any indictment against him, but presented charges against the Governor for calling out the militia to arrest him. Burr, now free, resolved to disband all his followers and leave the country. But before he could accomplish this he was again arrested. An indictment for high treason was found against him by the Grand Jury of the Dis-

trict of Virginia. He was charged with levying war, by the collection of armed men, within the dominion of Virginia. He was also charged with concocting a scheme for the overthrow of the National authority in the Western States and Territories. As there was not sufficient evidence against him, however, on his trial, he was acquitted.

#### THE ELECTORAL COUNT BILL.

ORION, Ill.  
What are the provisions of the electoral count bill?  
JESSIE CARSON.

*Answer.*—The electoral count bill was passed early in the second session of the Forty-ninth Congress. It provides that the electors shall meet and vote in their respective States the second Monday in January following their election. Any controversy over the election of any elector may be submitted for settlement to the State courts, but judgment must be given on the same at least six days before that on which the electoral vote is cast. The certified return of the electoral vote is made to the Secretary of State at Washington, and on the second Wednesday in February the vote is to be counted by Congress. In the count, the vote of all States, from which only a single return has been received, must be counted. Where two or more returns are made, the two houses of Congress must agree in determining which is the vote of the regularly certified State electors. If the case has been decided by a State court, they are to be bound by its decision; otherwise the votes to be counted shall be those which were cast by the electors whose appointment is certified by the Governor of the State.

#### TREATY OF 1818—RECIPROCITY TREATY WITH CANADA.

WYMORE, Neb.  
1. Was the treaty of 1818, between the United States and Great Britain, anything more than a fishery treaty? If so, what were its provisions? 2. Have we a commercial treaty with Canada, and what are its provisions?  
R. LIXSEY.

*Answer.*—The convention of 1818 was held to cover the omissions of previous treaties. One point unsettled was the question of the Northwest boundary. By this convention, held Oct. 20, 1818, it was agreed that the forty-ninth degree of north latitude was to be the boundary between the United States and British America, from the Lake of the Woods to the Rocky Mountains. The territory west of these mountains was to remain for ten years in the joint occupation of both parties; in other words, the British Fur Company, which alone had yet any establishments in that remote region, was not to be disturbed for that period. As to the fishery question, the Americans were granted full fishing rights on the north and east coasts of the Gulf of the St. Lawrence, the coasts of Labrador and the Magdalen Islands; but off the coasts of New Brunswick and Nova Scotia, in the Bay of Fundy, and on the western and southern coasts of the Gulf of St. Lawrence, American vessels were not to fish within three miles of the shore. The third point of the treaty related to the slaves that had been aided to escape by the British during the war of 1812-14. As the two governments



could not agree upon the true interpretation of the article in the treaty of Ghent on this subject, under which a large amount was claimed in the way of indemnity, it was arranged to refer it to a third power. Soon after Russia was selected as the arbiter. 2. We had an important reciprocity treaty with Canada, which was proclaimed Sept. 11, 1854, and terminated March 17, 1866, on notice given by the United States one year previous. By the terms of this treaty food products of all kinds, nearly all raw materials, and some half manufactured articles, were allowed to pass free from one country to the other. The dissatisfaction with the treaty arose from the owners of mines, timber, etc., in the United States, who found the price of their product kept down by Canadian competition. This treaty has never been renewed, though a strong sentiment in favor of the establishment of a similar reciprocal arrangement exists among business men. A memorial in favor of establishing a general reciprocity treaty with Canada was presented to the United States Government by the National Board of Trade in 1873, but it had no effect.

## CIVILIZATION.

How is civilization defined, and what nations are civilized, and what nations are still uncivilized?

W. HINDERLITER.

*Answer.*—Civilization may be defined as the aggregate of the material and moral progress which has been made and is still being made by men. The source of civilization may be said to be in man's faculty of acquiring knowledge about himself, and putting this knowledge to use to supply his wants, as well as in transmitting it to future generations. The distinction of races as civilized or otherwise, is somewhat arbitrary. By this distinction, nations are divided into five classes: savage, barbarous, half-civilized, civilized, and enlightened. The savage nations live in tribes and obtain food by hunting and fishing. The North American Indians, Esquimaux, etc., are still generally in the savage state, and so are some of the tribes of Siberia, and some in Africa. Barbarous nations are those which possess flocks and herds, and practice a rude agriculture. Examples of these are found in the Tartar tribes of Asia, some Siberia tribes, and many tribes of Africa. The half-civilized people depend chiefly upon agriculture for their living, have made some progress in the mechanic arts, and have towns and cities. Such are the Arabs to-day, the Egyptians, and others. Civilized nations are those that engage in commerce, that have the art of writing and have made considerable advancement in knowledge and morality. Finally, enlightened nations are those civilized races that have made great progress in the mechanic arts, have a thorough division of labor, have established systems of education, and in knowledge, religion, and morality have attained the highest point yet reached by man. It must be noticed that many nations may be said to belong to more than one of these classes, and that no nation whatever can be said to be either enlightened or civilized as re-

gards all of its individuals. The cities of every enlightened nation contain numbers sunk in ignorance, vice, and degradation that can not be surpassed among the most utter barbarians. It may be noted, too, that the conduct of even enlightened individuals is often most unworthy of their knowledge and boasted morality. Further, that even the most enlightened nations in their dealings with each other are far from doing credit to their enlightenment, while in their conduct toward inferior nations they are often more barbarous than the savages themselves. This is a harsh statement, but history can give many examples to show its truth.

## NICKNAMES OF GENERALS.

Will Our Curiosity Shop give us a list or all the nicknames applied by the boys to our Generals during the late war?

OLD SOLDIER.

*Answer.*—We do not suppose that it would be possible to compile a complete list, but for the benefit of this reader and others we quote the following on the subject, which appeared in a war article written two or three years ago. Probably some of our readers can add others to the list: "Every General of prominence had a nickname bestowed upon him by his troops. Some of these names were of a sarcastic nature, but usually they indicated the confidence of the men in their leaders or their admiration for them. General Grant was commonly known over the watch-fires in the Army of the Potomac as 'Old United States,' from the initials of his name, but sometimes he was called 'Old Three Stars,' that number indicating his rank as Lieutenant General. McClellan was endeared to his army as 'Little Mac.' Meade, who wore spectacles, was delighted to learn that the soldiers had named him 'Four-eyed George,' for he knew it was not intended as a reproach. Burnside, the Colonel of the First Rhode Island Regiment, rose to the dignity of 'Rhody' when he became a general. Hooker never liked the sobriquet of 'Fighting Joe,' though he always lived up to it during his career in the field. Pope was saddled with the title of 'Saddle-bag John,' in memory of his famous order about headquarters being on horseback. His men used to say that their headquarters moved pretty rapidly at times. Sigel, the German General, was known in the other corps as 'Dutchy.' Hancock won the brevet of 'Superb' from a remark made by General Meade at Gettysburg, when the Second Corps repulsed Longstreet's men. Humphreys, being a distinguished engineer, was invariably styled 'Old Mathematics.' The Pennsylvania Reserves used to call Crawford 'Physics,' he being a surgeon at the beginning of his military career. Logan, with his long black hair and dark complexion, was 'Black Jack' with his men. Sheridan, the cavalry leader, was 'Little Phil,' and Sherman's troops spoke of him as 'Old Tecumseh.' The sterling nature and steadfast purpose of Thomas earned for him the significant and familiar name of 'Old Reliable.' Alexander McDowell McCook, like Hooker, was called 'Fighting' McCook.' The New York City regiments in the Fifth Corps changed Sykes to 'Syksey.' Halleck was derisively named 'Old Brains,' and

Rosecrans had his name shortened to 'Rosey.' Lew Wallace was 'Louisa' to the soldiers under his command; he was a great favorite for his fighting qualities, and the soldiers adopted that inappropriate name for want of a better. Kearney, who had left an arm in Mexico, was invariably known in the ranks as 'One-armed Phil.' Butler was styled 'Cockeye,' for obvious reasons. Kilpatrick was nicknamed 'Kill,' while Custer was called 'Ringlets,' on account of his long, flowing curls; and so the catalogue might be prolonged indefinitely. Among the Confederates familiar nicknames were not so common as with the Federals. The soldiers of the Army of Northern Virginia usually spoke of General Lee as 'Bob Lee.' Little Mahone was best known as 'Skin and Bone.' Early was called 'Bad Old Man,' and Jackson will live in history as 'Stonewall.'"

#### THE GRAPHOPHONE.

Give an account of the new machine called the graphophone. Who invented it? CHICAGO.  
M. F. REED.

*Answer.*—This invention is the work of Mr. Sumner Taintor, aided by Professor Bell, the telephone inventor. The machine is operated on the principle of the phonograph. It is very simple and is free from mechanical complication. It has a treadle, and it looks very much like a small sewing-machine. Edison discovered the art of recording and reproducing sound, but his invention could not be used because of its clumsy mechanical arrangement, coupled with the very inferior and unsatisfactory methods of recording the sounds produced. He used a piece of tinfoil upon which the sound waves were indented and from which they were easily obliterated. The present inventor, Mr. Taintor, saw that a less destructible material was required, and after considerable experiment tried a preparation of wax and paraffine. This is the surface now used, and it works perfectly. He then made an entirely new apparatus, and the result is the graphophone, a machine which will sing a song, report a whistle, or give the quality and inflections of the voice in a most charming way. The small point which is attached to the diaphragm of the machine cuts a minute hair line in the wax surface. This line is so faint that it is scarcely perceptible to the naked eye, yet it serves to give a reproduction, so as to be distinctly heard by the listener, of a song, a laugh, or an ordinary speech.

#### THE BULGARIAN IMBROGLIO.

LARNED, Kan.  
Give a brief history of the recent Bulgarian trouble, and tell why Russia claims the right to dictate who shall occupy the Bulgarian throne. T. BALDWIN.

*Answer.*—The vacancy in the Bulgarian throne came about in this way: Aug. 22, 1886, there was a military insurrection at Sofia, the capital of Bulgaria, and Prince Alexander was forced to abdicate and leave the country. The Bulgarians were generally loyal to the Prince, and hence it was thought that the insurrection was due to Russian intrigue. The loyalists speedily suppressed the insurrection, and in less than a week had the exiled prince back again, and the leaders of the revolution under arrest for treason. Russia,

however, intervened to save the lives of the rebels, and, under threat of a Russian occupation of Bulgaria, Prince Alexander abdicated. There has since been a dead-lock in Bulgarian royal affairs; Russia, on the one hand, refusing to permit the recall of Alexander, and the Bulgarians, on the other hand, determined not to elect a prince favorable to the plans of the Czar. Bulgaria owes her political standing to Russia, the principality having been organized as a self-governing state as a consequence of the Russo-Turkish war of 1877. Prince Alexander, too, may be said to have owed his election to the Bulgarian throne to the favor shown him by his imperial uncle, Alexander II. On these grounds Russia has claimed a political protectorate over Bulgaria—though the Sultan is still nominal suzerain of that country—and her claim to control, or at least to interfere in, Bulgarian affairs, is tacitly allowed by the European powers. The Bulgarians, however, never fully sanctioned this interference, and their King, Alexander, sure of popular support, dared to attempt to conduct the affairs of his kingdom independently of the wishes of his arrogant uncle. But as the Czar was much the more powerful of the two rulers, the nephew lost his crown by his rash attempt.

#### THE EMIN BEY EXPEDITION.

CHICAGO.  
Who is Emin Bey, and what is the object of Henry Stanley's present expedition into Africa?

EMILY HUNTOON.

*Answer.*—Emin Bey, whose real name is Dr Schnitzler, is an Austrian by birth and education. He professed conversion to the faith of Islam about 1875, and then assumed the name he now bears. It is said—but we do not know on what evidence the story is supported—that he was one of Midhat Pasha's medical attendants at Constantinople, and on the arrest of his patron (for the murder of the Sultan Abdul Aziz) he fled for safety to Khartoom, disguised as an Arab. He professed conversion to Mohammedanism, and represented himself to be a Turk by race as well as religion. Even with Europeans he seems to have kept up his pretense, and travelers speak of Emin Effendi as a man of scientific tastes, a really marvelous thing in a Turk. He became an officer in the Khedive's army, and met and won the friendship of General Gordon when the latter was Governor General of the Soudan. In 1878 Gordon appointed him Governor of the Equatorial Province, the southernmost province of the Khedive's possessions. It is said that Emin Pasha was but 32 years of age when he was put in this difficult position, but he there proved himself possessed of remarkable executive ability. The finances of the province were in apparently hopeless confusion; he immediately made them all straight, and in a year had converted a deficit of £39,000 into a surplus of £8,000. In 1882 he went up to Khartoom and offered his services to the Egyptian authorities to effect a peace with the Mahdi. They declined his help and advised him to go back to his province, develop it, and perfect his frontiers. He obeyed, and soon after, by the spreading of the insurrection, he found himself wholly cut off



from communication with the Egyptian government. From that time Emin Pasha was deprived of all outside support, and surrounded on all sides by powerful enemies, and yet he succeeded in keeping the several millions of inhabitants of his province in subjection, and has taught them to wear clothes, make shoes, and cultivate tobacco. His province is a rich one, all revenues being collected in ivory. After March, 1883, no word was received from Emin Bey, and there were rumors of his death. In November, 1886, two letters were received, the first bearing date in December, 1885, the second in July, 1886. One of these letters was brought by Dr. William Junker, who had visited Emin in 1885, and had, with much delay, and at great peril, succeeded in making his way back through the disturbed territories to Zanzibar. The principal tenor of the Pasha's letters was to ask for help and supplies, as the tribes surrounding his territory had become hostile and threatened to attack his subjects. Henry Stanley, therefore, was the man called upon, as best acquainted with Central Africa and the dangers of the journey, to conduct this relief expedition. The Egyptian government contributed toward paying the expenses of the expedition, and large sums were also proffered by wealthy individuals in England and Germany. King Leopold of Belgium, who has been a generous patron of geographical discovery in Africa, also interested himself in the plan. Stanley, who had just begun a course of lectures in this country, gave them up promptly, canceled all his engagements, and set sail for Europe. Feb. 24 Stanley started from Zanzibar to go by sea to the mouth of the Congo, and up that river to Emin's territory. He estimated that the journey would take over five months.

#### LOWER CALIFORNIA.

LE GRAND, Iowa. Give the topography, soil, and productions of the peninsula of Lower California. W. S. D.

*Answer.*—Lower or Old California is a territory of Mexico. It has an area of about 57,000 square miles, and a population, in 1870, of nearly 22,000. The inhabitants are chiefly Indians or half-breeds, who live mostly in the southern part. The peninsula is traversed throughout by mountains, a continuation of the Sierra Nevada and the Coast ranges. It is divided into three regions: First, the chain known as Sierra de San Lazaro, having an average height of about 6,000 feet, and forming the backbone of the lower part of the peninsula. Separated from this chain by La Paz Bay is the Sierra de la Gigantea, whose average height is from 3,000 to 4,000 feet, but with occasional peaks from 6,000 to 8,000 feet. This range runs close to the Gulf shore, to which it descends almost perpendicularly, but declines gradually in gentle slopes to the west. The Coast range begins at about latitude 29 degrees, and the land between this range and the head of the Gulf is a wide, level strip. There is also some low land on the west coast. The mountains are generally barren near their summits, but at their base are cactuses of extraor-

inary size, and those valleys that are watered are quite fertile. Only a few small springs fall into the sea, but there are good springs in the interior. There is a good soil along the coast lagoons, and on the plains water is generally found a few feet below the surface, but in most localities irrigation is needed to secure good crops. The climate is varied; at the point of the peninsula it is mild, being tempered by the sea breeze. Along the middle part the heat is excessive, but farther north the air is cooler. The summer temperature on the Pacific coast ranges from 58 deg. to 71 deg.; on the Gulf coast it is even hotter. There are heavy rains and fierce winds in the winter time. All temperate grains and fruits and some tropical products can be raised. In 1866 the Mexican Government granted that part of the peninsula between latitude 31 deg. and 24 deg. 20 min. to the Lower California Company of New York with considerable privileges. They have made some attempts at colonization, but these have not been very successful.

#### THE ELECTORAL COMMISSION OF 1877.

LEBANON, Tenn. Give an account of the electoral commission of 1877, telling who introduced the bill. Also give the party vote by which the bill passed in each house and the names of the men composing the commission, their States, and their political parties.

J. A. FOERSTE.

*Answer.*—Immediately upon the meeting of the second session of the Forty-fourth Congress the question of how best to settle the differences of opinion concerning the electoral count was brought forward. A resolution calling for the appointment of five members of each house to confer on the subject was referred in the House to the Committee on Judiciary, which reported the resolution back amended and making the number from each house seven. This was passed Dec. 14 by the House, and Dec. 18 the Senate passed a similar resolution. The committee appointed on the part of the Senate were Messrs. Edmunds, Morton, Frelinghuysen, and Conkling, Republicans, and Messrs. Thurman, Bayard, and Ransom, Democrats. The House committee consisted of four Democrats—Messrs. Payne, of Ohio; Hutton, of Virginia; Hewitt, of New York, and Springer, of Illinois—and three Republicans—Messrs. McCrary, of Iowa; Hoar, of Massachusetts, and Willard, of Oregon. Jan. 13, Senator Edmunds, as Chairman of the above committee, reported a bill providing for the selection of five members from the House, five from the Senate, and five of the judges of the Supreme Court, to count the electoral votes and to decide all questions arising concerning them. This bill was the subject of much heated discussion in Congress during the following fortnight; the Republicans generally opposing it strongly, and the Democrats upholding it. It was finally passed in the Senate, 21 Republicans and 26 Democrats voting for it, and 16 Republicans and 1 Democrat against it. The House passed the act Jan. 26, by a vote of 191 to 86, 159 Democrats and 32 Republicans voting in its favor, and 69 Republicans and 15 Democrats opposing it. In the Senate 9 Republicans and 1 Democrat de-

clined to vote, and in the House 7 Democrats and 7 Republicans. The members of the commission selected were: Democrats—Justice Nathan Clifford, of Maine; Justice Stephen J. Field, of California; Senator A. G. Thurman, of Ohio; Senator Thomas F. Bayard, of Delaware; Representative Henry B. Payne, of Ohio; Representative Eppa Hunton, of Virginia; Representative Josiah G. Abbott, of Massachusetts. Republicans—Justice William Strong, of Pennsylvania; Justice Samuel F. Miller, of Iowa; Justice Joseph P. Bradley, of New Jersey; Senator George T. Edmunds, of Vermont; Senator Oliver P. Morton, of Indiana; Senator Frederick T. Frelinghuysen, of New Jersey; Representative James A. Garfield, of Ohio, and Representative George F. Hoar, of Massachusetts. The commission met the first week in February, and continued in session till March 1. They refused to go behind the returns in the doubtful States, and decided in each instance, by a strict party vote, the eight Republicans against the seven Democrats, in favor of the Hayes electors.

#### DIVING-BELLS.

DEERFIELD, Ill.

Give a short description of the diving-bell. Why are not all the valuable articles of wrecked ships obtained by its means?

J. GAW.

*Answer.*—The principle of the diving-bell can be seen by pressing any hollow vessel mouth downward into water. The air inside the vessel prevents the water from entering and entirely filling it, but the air is compressed into less space with the increasing depth of the water. This principle was probably known in the time of Aristotle, as it is recorded at that period that divers took with them a vessel which enabled them to remain longer under water. Some experiments of this kind are recorded during medieval times, and the diving-bell was frequently employed in the search for lost treasure, but little practical improvement was made in its use until a means of furnishing air to the bell when it was below water was discovered by Dr. Halley about the year 1715. He used two water-tight barrels, each supplied with a hose, also attached to the diving-bell. These barrels, attached to heavy weights, were dropped on each side of the diving-bell, and the air fed by them through the hose into the bell would force out the water so that the diver could step about on the bottom of the sea over the area covered by the bell. The air contaminated by breathing was let out through a stop-cock in the roof. As long, therefore, as the air supplied by the barrels was fit to breathe the diver could remain under water. Dr. Halley soon after devised the diver's cap, which was made of metal, and was fitted with a tube for conveying air to it from the bell, so that the diver, when wearing it, could leave the bell and walk around on the bottom of the sea. The most important improvement in the construction of the diving-bell was made in 1779, when the engineer Smeaton applied the air-pump for forcing down air into it. The most practical form of the diving-bell now in use is called the Nautilus, which is a sort of submarine boat with double sides, between which water is forced to cause the boat to

descend and air to cause it to rise to the surface again. Air is supplied to the central chamber of the vessel by means of a tube from an air-pump worked above water. Not all the contents of wrecks are reclaimed by means of the diving-bell, simply because the diving apparatus is expensive and the work is arduous and dangerous, and it will not pay to attempt the exploration of a wreck unless some valuable return is probable. It is also often very difficult to locate the exact spot where a sunken vessel lies.

#### NAVIES OF THE WORLD.

ALMA CITY, Minn.

Give the number of war vessels in each navy of the nations of the globe; also number of men and annual cost of the naval armament.

F. A. E.

*Answer.*—The following table shows the condition of the navies of the world, according to the latest figures attainable;

Countries.	No. of War Vessels.	No. of Men.	Cost of Navy.
Argentine Republic.	40	1,500	\$2,670,000
Austria-Hungary...	81	9,764	3,838,460
Brazil.....	59	5,788	5,560,291
Chili.....	22	2,385	4,359,893
China.....	60	.....	.....
Denmark.....	47	1,271	1,575,577
France.....	389	38,661	40,989,363
Germany.....	98	14,771	6,752,094
Great Britain.....	258	60,632	53,643,905
Greece.....	57	2,715	853,708
Italy.....	173	8,000	10,310,741
Japan.....	29	5,500	2,024,552
Netherlands.....	147	8,117	5,170,886
Norway.....	39	824	420,680
Portugal.....	36	3,400	1,607,411
Roumania.....	12	530	.....
Russia.....	268	24,998	19,911,580
Spain.....	126	21,703	6,719,046
Sweden.....	68	4,055	1,418,420
Turkey.....	32	40,000	3,000,000
United States.....	66	12,204	17,292,601

Belgium has a small merchant marine, but literally no war vessels. Canada has no navy, nor have any of the other British colonies. Egypt has still a few vessels for coasting service, but no naval force. Venezuela has an infant navy of some six vessels; Mexico has eight; but Peru, Colombia, and other Central American States have none.

#### THE TOPOLOBAMPO COLONY.

GOLCONDA, Wis.

Can Our Curiosity Shop give some account of the socialistic colony that is now being formed in Mexico, and tell where it is?

M. NEWTON.

*Answer.*—Reference is probably had to the Topolobampo Bay colony. Topolobampo is a bay in the State of Sinaloa, on the Gulf of Mexico, about midway between Guaymas on the north, and Mazatlan on the south, in Northwestern Mexico, being about 200 miles distant from either place. The bay contains over fifty square miles of area, and is divided into two sections, the inner of which is a capacious harbor, on whose north bank is the site of the projected city. Except on maps of the most recent date, Topolobampo Bay is not shown at all. For many years it was known only as the resort of smugglers. Some fourteen years since, Mr. Albert K. Owen, of Chester, Pa., who was engaged as a civil engineer, surveying routes for the Mexican Railway system, discovered the bay, and being attracted by the natural advantages of the point, decided that here was the place where he would locate an experiment which he had long cherished, to wit, the founding of a



co-operative colony. He induced the United States Government to make a hydrographic survey of the harbor, and obtained valuable concessions from the Mexican government, exempting his prospective colonists from duties, and then began the work of gathering these colonists together. After some time he formed a stock company called the "Credit Foncier," which was regularly incorporated under the laws of the State of Colorado. Up to the present time about 5,000 people have joined the enterprise, and in November, 1886, the first party of colonists reached Topolobampo. Others followed until by Jan. 5, 1887, about 400 had arrived. The colony has purchased thirty square miles on the harbor, which they have laid out for a city, and a large tract of farming land adjacent. The entire affairs of the colony are to be managed by a board of directors. The regulations adopted for the colony provide for the utmost liberty and opportunity for individual effort, the primary object of the plan being to prevent the enormous accumulations of wealth, whose concomitant always seems to be, at the other end of the social scale, harrowing poverty and moral degradation.

#### TO REMOVE SUPERFLUOUS HAIR.

CLEARWATER, Mich.

Please give a safe method of removing superfluous hair on the hands and face.

READER.

*Answer.*—We have given rules of this kind several times. Probably the use of pumice-stone is safer and to be preferred to caustic, though it is not permanent, and may need to be repeated. Procure a piece of pumice stone of a fine grain and not very porous. Prepare for use by cutting the stone into a small square with rounded edges. Then rub it on a hard stone or file until its whole surface is quite smooth. When this is done, rub gently with it the part where the hairs grow, at first once a day, previously dipping the pumice-stone in warm water. One minute's rubbing will generally suffice to remove the hair. If any irritation of the skin ensues, apply a little salad-oil to the part. The rubbings may be made as often as convenient, care being taken not to scrape the skin by too rough application.

#### MINGRELIA.

OTTUMWA, Iowa.

Where is Mingrelia, and who is Prince Nicholas of that country, said to be the choice of Russia for the ruler of Bulgaria?

READER.

*Answer.*—Mingrelia is a part of the ancient territory of Colchia. It is in Asia, bordering on Circassia and the Black Sea, and is a part of the lieutenancy of the Caucasus, of which the Grand Duke Michael is satrap. It has an area of 2,600 square miles, mostly mountainous, the low lands being fertile but swampy, and infested with the most malignant fevers. There is an iron mine, and it is said that gold has been found there, but the people do little besides raise corn and rice enough for food, and tobacco and bad wine enough to supply their appetites. There are practically no roads or other improvements, and the whole country has a savage and forbidding aspect. The inhabitants number about 240,000, and are of the most debased type of Georgians, being physically, mentally, and morally, the lowest of the Caucasian tribes. They

belong nominally to the Greek Church. Mingrelia was taken in conquest by Russia in 1804, but the "prince" was allowed to retain his place as chief, under a Russian overseer, until 1867, when he was altogether turned out and consoled therefor with a bounty of \$750,000. The Russian candidate for the throne of Bulgaria is a son of Prince David Dadian, the petty ruler thus dealt with by the Czar Alexander II. Prince Nicholas has no claim to the title he bears except the fact that his ancestors once held a chieftainship over some of the wild tribes of the Caucasus. The extinct dynasty which he represents claimed direct descent from King David of Israel. Nicholas himself is said to be an accomplished gentleman of the European type, having been well educated and having traveled extensively. He has an ancestral castle in his province, but prefers to reside in St. Petersburg.

#### FROZEN WORDS.

POLO, D. T.

Give the origin, if possible, of the fictitious account of frozen words.

F. J. KOLDER.

*Answer.*—Frozen words appear to have been a literary joke of the ancient Greeks, for Antiphanes applies it to the discourses of Plato: "As the cold of certain countries is so intense that it freezes the very words we utter, which remain congealed till the heat of the summer thaws them, so the mind of youth is so thoughtless that the wisdom of Plato lies there frozen, as it were, till it is thawed by the ripened judgment of mature age." The story told by Baron Munchausen of the music which froze in the horn, but thawed and came out when the weather grew mild, is familiar to all readers. The jest reappears here and there in literature, and has really no origin except the eccentric fancy of writers.

#### RULERS OF THE WORLD.

CLEVELAND, Mich.

Give a list of the governments of the world and their rulers, telling which are monarchies and which are republics.

E. R. SMITH.

*Answer.*—The following gives all the important political divisions on the globe, with classification as desired:

#### FEDERATIONS.

United States—Federative republic of 38 States. President, S. Grover Cleveland; elected in November, 1884.

Mexico—Federative republic of 27 states. President, Porfirio Diaz; installed Dec. 1, 1884.

Colombia—Federative republic of 9 states. President, Rafael Nunez; elected for two years beginning April 1, 1884.

Venezuela—Federative republic of 21 states. President, Don Antonio Guzman Blanco; re-elected February, 1886.

Argentine Confederation—Federative republic of 14 states. President, Miguel Juarez Celman; elected for six years, October, 1886.

Liberia—Federative republic of 4 states. President, Hilary R. W. Johnson; elected 1886.

Switzerland—Federative republic of 23 cantons. President, Numa Droz; elected January, 1887.

Germany—Federative empire of 4 kingdoms, 6 grand duchies, 5 duchies, 7 principalities, 3 free towns and 1 imperial territory. Em-

peror, William I, of the house of Hohenzollern, proclaimed Emperor Jan. 18, 1871.

Austria-Hungary—Union under one crown and a bipartite Federal Congress, of the Empire of Austria and the Kingdom of Hungary. Emperor and King, Franz Josef I, of the House of Habsburg-Lorraine; proclaimed Emperor 1848; crowned King of Hungary 1867.

Sweden and Norway—Bipartite State—Union under one crown of otherwise independent kingdoms. King, Oscar I, of the house of Ponte Corvo, succeeded to throne Sept. 18, 1872.

#### INTEGRAL STATES—REPUBLICS.

France—President, Francois Paul Jules Grevy; re-elected for seven years December, 1885.

Chili—President, Don Jose Manuel Balmaceda; elected September, 1886.

Bolivia—President, Don Gregorio Pacheco; proclaimed August, 1884.

Peru—President, General Caceres; elected April, 1886.

Ecuador—President, Jose Maria Placido. Caamano; elected October, 1883.

Guatemala—President, General Don M. L. Barillas; elected 1885.

Costa Rica—President, General Don Bernardo Soto; elected March, 1885.

Honduras—President, General Luiz Bogran; elected November, 1883.

Nicaragua—President, Dr. Don Adan Cardenas; elected March, 1883.

San Salvador—President, General Francisco Menendez; elected June, 1885.

Paraguay—President, General Escobar, elected September, 1886.

Uruguay—President, Mascun o Tazes, elected November, 1886.

Hayti—President, General Salomon, elected October, 1879.

San Domingo—President, General Ulises Heureaux, elected 1886.

Orange Free State—President, Sir John H. Brand, elected December, 1893, for fifth period of five years.

#### CONSTITUTIONAL MONARCHIES.

Great Britain—Victoria I, of the house of Hanover, Queen of Great Britain and Ireland, and Empress of India, crowned in 1837.

Belgium—King, Leopold II, succeeded Dec. 10, 1865.

Brazil—Emperor, Pedro II, of the house of Braganza, succeeded to throne April 7, 1831.

Portugal—King, Luis I, of the house of Braganza Coburg, succeeded to throne Nov. 11, 1861.

Spain—King, Alfonso XIII, born May 17, 1886; Queen Regent, Maria Christina, proclaimed Nov. 26, 1885.

Holland or the Netherlands—King, Willem III, of the house of Orange, succeeded to the throne 1849.

Denmark—King, Christian IX, of the house of Schleswig-Holstein-Sonderburg-Glücksburg; came to throne, 1863.

Italy—King, Umberto I, of the house of Savoy Carignano; came to throne, 1878.

Greece—King, George I, son of the King of Denmark; elected 1863.

Roumania—King, Karl I, of the house of Hohen-

zollern Sigmaringen; elected Prince 1866; crowned King March 27, 1881.

Servia—King, Milan I, of the family of Obrenovitch; elected Prince 1868; crowned King 1882.

#### DESPOTISMS.

Russia—Emperor, Alexander III, of the house of Romanof-Holstein. Succeeded to throne, 1881.

Montenegro—Hospodar (or Prince) Nicholas I.

Turkey or Ottoman Empire—Sultan, Abdul-Hamid II, of house of Ottoman; succeeded to the throne 1876.

Morocco—Sultan, Muley Hassan; succeeded to throne 1873.

Persia—Shah, Nassr-ed-Din; succeeded to throne, 1848.

China—Emperor, Tsaiteen; proclaimed, 1875.

Japan—Mikado, Mutsu Hito; succeeded to throne 1867.

Siam—King, Chulalong Korn I; succeeded to throne 1868.

Afghanistan—Ameer, Abdurrahman Khan; succeeded to throne 1880.

Abyssinia—Johannes II; crowned, 1872.

#### ENGLAND IN EGYPT.

SANDWICH, II.

How did England secure her hold on Egypt? A. P.

*Answer.*—In 1878 the Khedive Ismail, by rash efforts to inaugurate public improvements and various other extravagances, had increased the national debt to \$485,000,000. It was not possible to extort even the interest on this debt from his already impoverished subjects, and Egyptian credit was so impaired that additional foreign loans to meet the annual deficit in the revenues could no longer be obtained. This large debt being mostly held in England and France, Ismail handed over the financial administration of his government to these two powers, and they established what was known as the "Anglo-French Control." Two controllers general were sent by these countries to take up their residence in Egypt, there to superintend the collection and disbursement of the revenue. The Khedive was not pleased with their conduct of affairs, however, and in April, 1879, he arbitrarily dismissed them. The European powers then interfered and forced Ismail to abdicate his throne in favor of his son Mehemet Tewfik, and the joint control was restored. It was very unpopular with the people, however, and gave the most important pretext for the rebellion of 1881, headed by Arabi Bey. England and France then sent a joint fleet to Alexandria to uphold the authority of the Khedive, and to protect European residents in Egyptian cities, who were the especial objects of the popular hatred. Jan. 11, 1881, there was a massacre of the Christians at Alexandria. The English now determined to open fire on the insurgents; the French would not take part in the attack, and, therefore, on the 11th of June, Alexandria was bombarded by order of the English commander. This attack was followed by the landing of the British force, which, acting in the interest of the Khedive, overthrew the rebellion of Arabi, and restored peace and order. The joint control was now under-



stood to be abolished, and England established an army of occupation in Egypt, which, however, she distinctly declared should not remain there any longer than was necessary to secure the permanency of the Khedive's government. Lord Dufferin was sent to Egypt in the fall of 1882 to reorganize the legislative branch of the government, and prepared a constitution which was accepted by the Khedive, and put in force by his decree. During the disturbances in the Soudan, the powers generally made no objection to England's occupation of Egypt, but when that trouble was over France began to interpose objections, and demand guarantees for her claims against that country. In 1885, a financial scheme was drawn up by the powers, under which the credit of the government has been greatly improved. Some arrangement pointing to a withdrawal of troops has been under consideration by the British government for some time, as it is generally understood that a continued occupation will not be sanctioned by the powers.

#### CLEOPATRA'S NEEDLES.

BRADFORD, Iowa.

Give a brief history of Cleopatra's Needles.

J. C. C.

*Answer.*—The two obelisks known as Cleopatra's Needles were set up at the entrance of the Temple of the Sun, in Heliopolis, Egypt, by Thothmes III., about 1831 B. C. We have no means of knowing when they were built, or by whom, except from the inscriptions on them, which indicate the above time. The material of which they were cut is granite, brought from Syene, near the first cataract of the Nile. Two centuries after their erection Rameses II. had the stones nearly covered with carvings setting out his own greatness and achievements. Twenty-three years before Christ, Augustus Cæsar moved the obelisks from Heliopolis to Alexandria and set them up in the Cæsarium, a palace which now stands, a mere mass of ruins, near the station of the railroad to Cairo. In 1819 one of these obelisks was presented by the Egyptian Government to England, but as no one knew how to move them, it was not taken to London until 1878. Subsequently the other obelisk was presented to the United States, and was transported to New York in 1880. The moving of the English obelisk was superintended by Civil Engineer John Dixon, and the American column by Commander Gorringe, U. S. N. The latter was raised on its pedestal in Central Park, New York, Jan. 22, 1881.

#### GERMAN POLITICAL PARTIES.

WEBBERS' FALLS, I. T.

Tell something about the political parties in Germany, and how they are represented in the Reichstag.

JULIUS KRAFT.

*Answer.*—The German Reichstag or Parliament is split up into ten groups, representing as many political parties. The largest of these groups is the party of the National Liberals. This party has had much influence in recent German history, and has really great popular influence, but its power fluctuates with circumstances. In 1884 there were forty-nine National Liberals elected; at the election of February, 1887, the

party returned 110 members. Before 1879 the National Liberals, under the leadership of Herr Lasker, formed the largest and most powerful party in the House. In 1879 the party split on the question of protection: one part, led by Von Bessingen, kept the old name, largely retaining the more conservative opinion of the party; the rest, under Lasker, took the name of Liberal Unionists or Secessionists. The National Liberals are now supporters of the ministry. The second group in the Reichstag, in point of numbers, is the Center, or Ultramontane, or Clerical party, whose chief strength is with the people of the Rhine districts and South Germany. This party, which is the most compact and obedient in the Reichstag, is led by Dr. Windthorst. It is usually more or less openly in opposition to the Chancellor, and carries its points by bargain with him. It has ninety-seven members. The next party is that of the Conservatives, which commands eighty-one votes in the assembly. This party may be called the nucleus of the Ministerial party, as it is through it that the government measures are introduced and urged. Its principal leaders are Count Von Moltke and Herr Von Puttkamer. In close relationship to these stand the Imperialists, whose name fairly indicates their leanings. They differ slightly in opinion from the Conservatives, but vote with them on all occasions. Their leader is Count Herbert von Bismarck. They have thirty-nine members in the assembly. After Lasker's death his party, the Secessionists, fused with the Progressivists and took the name of the German Liberal party, which now has a representation of thirty-four members, is the strongest force of Liberal opposition, and is led by Herr Eugene Richter. The Social Democrats, another important party in opposition, is divided in the present assembly into Protesters, fifteen members; Socialists, eleven. These parties are the especial antipathy of Prince Bismarck, who has never left an effort untried to crush them. The remaining three groups, Poles, fifteen; Guelphs, four; and Danes, one, are all parties of protest, and vote with the Center as Catholics, but the reason for their existence is primarily opposition to the empire.

#### A STOIC PHILOSOPHER.

LOGANSPORT, Ind.

Give a sketch of the great stoic philosopher Seneca.

E. D. McLAIN.

*Answer.*—Lucius Annaeus Seneca was the son of a famous Roman rhetorician, and was born in Corduba, Italy, a few years before the Christian era. He studied rhetoric and philosophy in Rome, traveled much, and took the profession of an advocate on his return to Rome. Incurring the enmity of the wife of the Emperor Claudius, he was banished to Corsica, and while there wrote two of his best treatises. In A. D. 49 he was recalled, and was made prætor, and was also appointed instructor to the young prince Nero. After Nero had ascended the throne he gave way to his depraved passions to such an extent that Seneca's influence over him was altogether lost. The philosopher, however, had profited by his pupil's extravagant bounty to amass

a large fortune, and as Nero soon began to look with envious eyes upon this fortune, Seneca, with much tact, begged permission to refund the gifts which he had received, and to retire on a small allowance. This Nero declined, and Seneca, under pretense of illness, shut himself up and refused to appear in public. It is said that Nero attempted to poison him, but failed, and soon after he was accused of complicity in a conspiracy and sentenced to commit suicide. According to his own choice he was placed in a warm bath and had the veins of his arms and legs opened. It is said that from age and feebleness his blood flowed so slowly that to shorten his sufferings he was placed in a vapor oven where he died from exhaustion. His wife attempted suicide with him, but Nero ordered her attendants to tie up her veins, and she lived several years longer. Seneca wrote much, chiefly on moral subjects, and his treatises, many of which are still extant, are regarded as the best utterances of heathen (that is, not distinctively Christian) philosophy that are on record.

#### PINKERTON'S DETECTIVE AGENCY.

Can Our Curiosity Shop give us a history of Pinkerton's Detective Agency?

WEST BRAND, IOWA.

W. SMITH.

*Answer*.—The noted Allen Pinkerton began his detective work about the year 1845, while he was engaged at the trade of a cooper in Dundee. He had frequent occasion to visit some of the islands in the Fox River to procure materials for his business, and while on one of these he discovered the existence of a gang of counterfeiters, who had their retreat on the island. Having a natural love for adventure, he determined to investigate the operations of these law-breakers, and succeeded in breaking up the gang and securing the leaders. The exploit being much talked of, the young cooper was soon after made Deputy Sheriff of Kane County, and later Deputy Sheriff of Cook County. In these positions he showed so much efficiency that he was appointed the first detective on the city force of Chicago. In 1852 Mr. Pinkerton became impressed with the need of a detective force which should be independent of political influence, and associating with him a young attorney, Edward L. Rucker, started the "Pinkerton Detective Agency," the first institution of the kind in the United States. A year later Mr. Pinkerton took the entire charge of the business. Some four or five men only were then employed by the agency. It now employs several hundred, Mr. Pinkerton was associated in sympathy with the abolitionists, and was very active in the work of helping fugitive slaves to Canada. In 1860, the agency added to its force a corps of night-watchmen, or merchants' police. The reputation of Mr. Pinkerton's skill soon spread all over the United States, and many important cases were entrusted to him. It was Mr. Pinkerton who discovered the plot in Baltimore to assassinate President Lincoln, on his way to his inauguration. During the war Mr. Pinkerton conducted the secret service department of the government, leaving his detective business in the hands of capable officers, and when the war was over, re-

turned to its management. The agency became known throughout the entire country, and had offices in all cities East and West. Mr. Pinkerton wrote up many of his remarkable experiences with criminals in book form. He died in 1884, and the detective agency is now in charge of his sons.

#### NEW YORK DRAFT RIOTS.

CENTERVILLE, Mich.  
Give the causes and brief summary of the circumstances of the New York draft riots.

W. F. WALL.

*Answer*.—The difficulty in enforcing the draft in New York might have been foreseen, indeed, it was plainly apprehended, but it was not thought advisable by the Federal authorities to materially alter the regulations of conscription in putting the law in force in that city. Still, there can be no doubt that the vastly different conditions then existing in New York from those in inland towns of the State, or even other seaboard cities, formed the original cause of the trouble. New York had then a much larger population than any other city, and a much greater proportion of foreigners among her inhabitants. These naturally enough had no sentiment of patriotism to aid them in submitting to the harsh conditions of conscription. Further, there were, as there always are in every large city, great numbers of poor men there, with families living from hand to mouth, and never making any due provision for future contingencies. To such families of course the forcible removal of their bread-winner meant starvation. To such an extent had apprehensions of this fate for their wives and children been aroused among the laboring men of the city—especially in those districts largely inhabited by foreigners, and no doubt incited by those who opposed the draft for political reasons—that associations were formed to resist the law by force. On Saturday, July 11, 1863, the draft was begun in the Ninth Congressional District, a locality largely inhabited by poor people. It was carried on without interruption or disturbance, but on Sunday secret meetings were held and the plans of resistance formed. When the draft was begun on the following morning, a mob surrounded the building in which it was held, smashed in the windows, broke down the doors, and, rushing in, destroyed the furniture, and finally set the building on fire. All of the officers escaped uninjured but one, who was hurt by flying stones. The success of the rioters here added large numbers to their ranks and in a few hours a great army, re-enforced by all the roughs of the city, was tramping through the streets, burning, destroying, plundering, and murdering wherever resistance was offered them. Crowds of women were with them, inciting their husbands to lawless deeds. At first a detachment of marines was sent against them with muskets and blank cartridges. When it was known that their firing produced no effect the crowd set upon them and beat them, seriously injuring and even killing several. Police sent against them were treated in like manner. Through race-hatred or political malice, the mob was disposed to vent a special an-



imosity upon negroes. They attacked these unfortunate people on the streets, in restaurants, and at their homes. The Colored Half Orphan Asylum on Fifth avenue was attacked by an army of ruffian boys, the children beaten, the place plundered and fired. There was no force at hand to defend the city from the rioters but the police, which did valiant service, though they were not at all able to check the disorder. On the second day the rioting was even worse than on the first. Governor Seymour having arrived in the city, issued a proclamation in which he partially condoned the outbreak by admitting that the people were apprehensive of injustice on the part of the government, and promised them that the rights of all would be protected, while he warned the people that he would use all means in his power to preserve order. A few hours later he issued another proclamation, in which he declared the city in a state of insurrection, and ordered the dispersal of the mob. These proclamations, however, did but little good. General Wool, the head of the department of the East, called out all veteran volunteers, but there was so little time for organizing that, though large numbers responded, they could not be used effectively. A small command of regular troops from Fort Lafayette did more effective service. The riot lasted three days, during which business was entirely suspended. The draft was for the time given up, and the City Council passed a relief bill to pay \$300 commutation, or substitute money, for every drafted man of the poorer classes who had a family dependent upon him. It was estimated that the number killed during the riots, or who died of injuries, was nearly 1,000, but this was probably an exaggerated estimate. The mortality statistics recorded an increase of 450 over the average weekly mortality of the year. There was much destruction of property, and claims for damages caused by the riots were brought before the county authorities to the aggregate of \$2,500,000. Many, however, were disallowed by the examining committee, but about \$1,500,000 was finally paid.

#### THE GIANT'S CAUSEWAY.

ST. JOE, Ind.  
What and where is the Giant's Causeway?  
CORNELIUS A. WOODCOX.

*Answer.*—The Giant's Causeway is a series of columnar basaltic rocks in County Antrim, on the northeast coast of Ireland. For eight miles along the coast the land abuts on the sea in cliffs of basalt, many of them made up of rude vertical columns, and the appearance of these columns from the sea suggests a partial resemblance to architectural forms. The name Giant's Causeway is often applied to all this coast range of cliffs, but it properly belongs to only a small part of it, which is a platform of basalt in closely arranged columns—from 15 to 36 feet high—which extends from a steep cliff down into the sea till it is lost below low water mark. It is divided across its breadth into three portions, the Little, Middle and Grand Causeway, these being separated from each other by dikes of basalt. The columns are

generally hexagonal prisms, but they are also found of five, seven, eight, and nine sides, in almost every instance being fitted together with the utmost precision, and it is said that even water can not penetrate between adjoining columns. The name causeway is given to the platform, as its columns terminate at so nearly a uniform height that it presents an almost smooth area extending to the water, seeming to the primitive imagination a road that had been prepared for the convenience of giants.

#### COINS OF FOREIGN COUNTRIES.

HEASTON, IND.  
Give the coinage used in each of the foreign countries and the value of the same in United States money.  
J. TAYLOR.

*Answer.*—The following carefully prepared summary indicates the coins in use in the various countries, taking their names in alphabetical order:

Argentina Republic—Gold coins: 20 peso piece, \$19.94; 10 pesos, \$9.97; 5 pesos, \$4.93. Silver: 1 peso, 99 cents. The copper coin of the country is the centesimo, 100 of which make a peso or dollar.

Austria—Gold coins: 8 gulden piece, \$3.86; 4 gulden, \$1.93. Silver: Marie Theresa thaler, \$1.02; 2 gulden, 96 cents; 1 gulden, 48 cents;  $\frac{1}{2}$  gulden, 12 cents; 20 kreutzer, 10 cents; 10 kreutzer, 5 cents. Of the small copper coin current, known as the kreutzer, 100 make a gulden.

Brazil—Gold coins: 20 milrei piece, \$10.91; 10 milreis, \$5.45. Silver: 2 milreis, \$1.09; 1 milreis, 55 cents;  $\frac{1}{2}$  milreis, 27 cents. The Portuguese rei is used for copper money, worth about  $\frac{1}{8}$  of a cent.

Chili—Gold coins: 10 pesos (or 1 condor), \$9.10; 5 pesos, \$4.55; 2 pesos, \$1.82. Silver: 1 peso, 91 cents; 50 centavos, 45 cents; 20 centavos, 18 cents; 10 centavos, 9 cents; 5 centavos, 4 cents. The copper coin is 1 centavo, 100th of a peso.

Colombia—Gold coins: Twenty peso piece, \$19.30; 10 pesos, \$9.65; 5 pesos, \$4.82; 2 pesos, \$1.93. Silver: One peso, 96 cents; 20 centavos, 19 cents; 10 centavos, 10 cents; 5 centavos, 5 cents. The copper centavo of Colombia is identical in value with our cent. (The currency of Colombia is also used in Venezuela.)

Denmark—Gold coins: Twenty kroner piece, \$5.36; 10 kroner, \$2.68. Silver: Two kroner, 53 cents; 1 krone, 27 cents; 50 ore, 13 cents; 40 ore, 10 cents; 25 ore, 6 $\frac{1}{2}$  cents; 10 ore, 2 $\frac{1}{2}$  cents. One hundred of the copper ore make one krone.

France—Gold coins: One hundred franc piece, \$19.30; 50 francs, \$9.65; 20 francs, \$3.85; 10 francs, \$1.93; 5 francs, 96 cents. Silver: Five francs, 96 cents; 2 francs, 38 cents; 1 franc, 19 cents; 50 centimes, 10 cents; 20 centimes, 4 cents. The copper coins are the sou, worth about 9 $\frac{1}{2}$  mills, and the centime, 2 mills.

Germany—Gold coins: Twenty mark piece, \$4.76; 10 marks, \$2.38; 5 marks, \$1.19. Silver: Five marks, \$1.19; 2 marks, 48 cents; 1 mark, 24 cents; 50 pfennige, 12 cents; 20 pfennige, 5

cents. One hundred copper pfennige make one mark.

Great Britain—Gold coins: Pound or sovereign, \$4.86; guinea, \$5.12. Silver: Five shillings or crown, \$1.25; half crown, 62½ cents; shilling, 25 cents; sixpence, 12½ cents. Also a three-penny piece and a four-penny piece, but the latter is being called in, and is nearly out of circulation. The copper coins of Great Britain are the penny, half-penny, and farthing.

India—Gold coins: Thirty rupees or double mohur, \$14.58; 15 rupees or mohur, \$7.29; 10 rupees, \$4.86; 5 rupees, \$2.43. Silver: One rupee, 48 cents, and coins respectively of the value of one-half, one-fourth, and one-eighth rupee. In copper there is the pie, one-fourth of a cent; the pice, three-fourths of a cent; the ana, 3 cents.

Japan—Gold coins: Twenty yen, \$19.94; 10 yen, \$9.97; 5 yen, \$4.98; 2 yen, \$1.99; 1 yen, 99 cents. Silver: The 50, 20, 10 and 5 sen pieces, answering respectively to 50, 20, 10, and 5 cents. In copper there is the sen, answering to 1 cent.

Mexico—Gold coins: Sixteen dollar piece, \$15.74; 8 dollars, \$7.87; 4 dollars, \$3.93; 2 dollars, \$1.96; 1 dollar, 98 cents. Silver: 1 dollar, 98 cents; 50-cent piece, 49 cents; 25 cents, 24 cents. The Mexican cent, like our own, equals one-hundredth of a dollar.

Netherlands—Gold coins: Ten-guilder piece, \$4.02; 5 guilders, \$2.01. Silver: 2½ guilders, \$1; 1 guilder, 40 cents; half-guilder, 20 cents; 25 cents, 10 cents; 10 cents, 4 cents; 5 cents, 2 cents. The Dutch copper cent is one-hundredth of the guilder.

Peru—Gold coins: Twenty-sol piece, \$19.30; 10 sol, \$9.65; 5 sol, \$4.82; 2 sol, \$1.93; 1 sol, 96 cents. Silver: 1 sol, 96 cents; 50 centesimos, 48 cents; 20, 10, and 5 centesimos worth respectively 19, 10, and 5 cents. It will be noted that the Peruvian coinage is almost identical with that of Colombia. It is also used in Bolivia.

Portugal—Gold coins: Crown, \$10.80; half-crown, \$5.40; one-fifth crown, \$2.16; one-tenth crown, \$1.08. These gold pieces are also known respectively as 10, 5, 2, and 1 dollar pieces. The silver coins are the 500, 200, 100, and 5 reis coins, worth respectively 54, 21, 11, and 5 cents. One thousand reis are equal to one crown.

Russia—Gold coins: Imperial or 10-ruble piece, \$7.72; 5 rubles, \$3.86; 3 rubles, \$2.31. Silver: Ruble, 77 cents; half-ruble, 38 cents; quarter-ruble, 19 cents; 20 copecks, 15 cents; 10 copecks, 7 cents; 5 copecks, 4 cents; 100 copecks are worth 1 ruble.

Turkey—Gold coins: Lira or medjidie, \$4.40; half-lira, \$2.20; quarter-lira, \$1.10. The silver unit is the piastre, worth 4 cents of our currency, and silver coins of 1, 2, 5, 10, and 20 piastres are current.

The currency of Denmark is also in use in Norway and Sweden, these three countries forming the Scandinavian Union. Belgium, France, Greece, Italy, Roumania, Serbia, Spain, and Switzerland are united in the Latin Union, and use the French coinage. The units in the differ-

ent States are, it is true, called by different names; as in France, Belgium, and Switzerland, franc and centime; in Italy, lira and centesimo; in Greece, drachm and lepta; in Roumania, lei and bani; in Serbia, dinar and para; in Spain, peseta and centesimo; but in all cases the value is the same.

The similarity in the coinage of different countries is worth notice. A very slight change in the percentage of silver used would render the half-guilder of Austria, the krone of the Scandinavian Union, the franc of the Latin Union, the mark of Germany, the half-guilder of Holland, the quarter-ruble of Russia, the 200-reis piece of Portugal, the 5-piastre piece of Turkey, the half-milreis of Brazil, and the half-rupee of India, all interchangeable with the English shilling, and all of them about the value of the quarter-dollar of North and South American coinage. With the exception of Brazil, the other South American States, as well as Mexico and the Central American countries, are all rapidly approximating a uniform coinage, which the needs of commerce will unquestionably soon harmonize with that of the United States. Curiously enough, the great force that is assimilating the alien branches of the human race is not Christianity but trade.

#### SAN DOMINGO.

CHICAGO.

Give a brief history of the island of San Domingo or Hayti.

H. BASSETT.

Answer.—This island was discovered by Columbus in 1492. The natives then called it Hayti or the mountainous land; but the discoverer preferred to call it Hispaniola, or Little Spain. The name San Domingo comes from the city of that name founded Aug. 4, 1434, and named in honor of the day, or, some think, in honor of the father of Columbus. The island was first colonized by the Spaniards, and about the middle of the seventeenth century by the French buccaneers also. The question of boundary was the cause of almost incessant warfare between the colonies until, by the treaty of Ryswick, the west part of the island was ceded to the French. During the French revolution a triple contest arose in the colony between whites, mulattoes, and blacks. This extended to all parts of the island, and resulted, in 1801, in the supremacy of the negro element under Toussaint l'Ouverture, who then proclaimed the island independent. Captured by the French, Toussaint ended his life in prison at Besancon. His successor, Jean Jaques Dessalines, defeated the French and made himself first Governor and afterward Emperor of the island. Shot by his own troops in 1806, he was succeeded by Petion and Christophe, who divided the sovereignty of the island between themselves until 1820, when it was united in the person of their successor, General Jean Pierre Boyer. Meanwhile Spain had maintained a hold at San Domingo City, and had, on the fall of Napoleon, obtained a nominal claim to the French part of the island. General Boyer extinguished this by the capture of San Domingo, but some years later weakly conceded the validity



of the French claim to indemnity, to purchase which he pledged the credit of the island for 150,000,000 francs. This led, in 1843, to the secession of the Spanish part of the island, which disowned any liability to France and refused to participate in its payment. This was in 1843. The new state assumed the name of Dominica, the old state retaining that of Hayti, the aboriginal name for the island, which had been revived by Dessalines. But little political progress has been made in either of these republics, owing to continual revolutions and civil wars. The people have acquired more liberty of action, but this freedom has rather led to idleness and lawlessness than to peace and prosperity.

#### THE BRITISH NAVY.

STERLING, Neb.  
Give a description of the navy of Great Britain.  
A. D. MCMANUS.

*Answer.*—The navy of the United Kingdom of Great Britain and Ireland is a perpetual establishment, and the statutes and orders by which it is governed have been permanently fixed with great precision by Parliament. The wages of the men and boys employed are fixed by the annual vote of Parliament, but no vote is taken on the number employed, this is permanent. The average cost of the navy is about \$55,000,000 yearly. The total number of officers and men in service in the navy is 60,632, besides 19,200 men in the naval reserve. There were in commission, in 1886, 258 vessels, including 191 steamships, 30 sailing vessels, and 37 stationary ships. Of these 75 are iron-clads, carrying over 700 guns. These vessels are of different dimensions. One of the largest is the *Inflexible*, which is 320 feet long and 75 feet broad, with a total weight of armor of 3,275 tons. The power and strength of the ship is concentrated in its central part, which forms a citadel nearly 16 feet high, 9 feet of which is above the water. It is 75 feet broad and 110 feet long, and encloses within its rectangular walls the engines and boilers, the base of the turrets, and the loading gear. Its walls are 41 inches thick, and consist of armor plates from 16 to 24 inches thick, with strong teak backing. The central part of this armored castle is filled by the two turrets, 9 feet high, with an internal diameter of 28 feet, placed to the right and left, each holding two 80-ton guns, capable of firing a 700-pound shot with a charge of 450 pounds of powder.

#### POPE LEO XIII.

ONEIDA, Kan.  
Give a brief history of Joachim Pecci—Pope Leo XIII.  
C. SHINN.

*Answer.*—Joachim Pecci was born March 2, 1810, at Carpineto, Italy. He was a member of an illustrious family, long noted in Italian history. He was educated at the Roman College and the Academy of Ecclesiastical Nobles, entering the priesthood after the completion of his course at the latter institution. About 1838 he was sent by the Pope as delegate to direct the government of Benevento, one of the Papal states. This district was then in a most lawless condition, but young Pecci, by firmness and decision, restored it to

complete order. Subsequently he had charge of a larger State, Spoleto, and later of Perugia. In 1843 he was appointed Archbishop of Damietta, Egypt. He was later made Papal Nuncio to Belgium, then was Bishop of Perugia, and in 1853 was made a Cardinal by Pius IX. Feb. 20, 1877, he was elected Pope by the College of Cardinals.

#### NATURAL GAS.

VAN BUREN, Ind.,  
Give an account of the discovery of "natural gas," and tell when it was first used as fuel.  
L. V. CONWELL.

*Answer.*—The earliest use of natural gas on record is in China, where for centuries it has been conveyed through hollow bamboos from fissures in salt mines to the surface for burning purposes. Near the Caspian Sea, in Asia, there are also places where natural gas is seen to exude from the earth, and a similar phenomenon is to be seen in the Szalatua salt mine in Hungary. Natural gas was first discovered in this country in the neighborhood of Fredonia, Chautauqua County, N. Y., early in the century. Here it was first put to use by some enterprising citizens in the year 1821. A small well was bored in the village to the depth of twenty-seven feet, and the gas was conducted through pipes to the houses, where it was used for illuminating purposes alone. It is said that in 1824, on the occasion of Lafayette's visit, the village was illuminated with natural gas. This well, which was drilled in 1850 to the depth of only seventy feet, continued to supply the village with illuminating gas until the year 1858. It is a noteworthy fact that although this interesting discovery was widely known it did not lead to any further experiments, either in the neighborhood or in other places, till fully twenty years after 1821. In the early part of the present century it was found that the wells which were bored for salt in the Kanawha Valley yielded large quantities of gas. In 1841 this gas was first used as fuel for boiling the brines obtained from the wells. Nearly all the wells drilled for the purpose of obtaining petroleum afforded natural gas in abundance: it was, in fact, a considerable inconvenience to those engaged in sinking the wells, and often a source of serious danger. In 1865 a well which was sunk for petroleum at West Bloomfield, N. Y., struck a flow of natural gas. An effort was made to utilize this, and it was carried in a wooden main to the city of Rochester, a distance of 24 miles, in 1870 for the purpose of illuminating the city, but the experiment was a failure. So, though it was obvious that this caseous product constituted an inexhaustible supply of excellent fuel, no attempt was made to put it to use in manufacture until during the past decade. In 1873 a well in Armstrong County, Pennsylvania, was so arranged that the gas could be separated from the water with which it was discharged, and conveyed through pipes to several mills in that vicinity, where it was used in the manufacture of bar iron. From that time to the present day the use of natural gas has increased very rapidly. It is estimated that the gas used in 1885 for heating and illuminating pur-

poses was equivalent to 3,131,000 tons of coal, having a value of \$4,857,000. The consumption of gas during the last calendar year very much exceeded this quantity; the total value, estimated on the basis of the coal which it has displaced, probably amounted to more than \$6,000,000.

#### GENERAL GRANT'S PALL-BEARERS.

BLAIRSTOWN, IOWA.  
Give the names of the pall-bearers at General Grant's funeral. W. B. WAYNER.

*Answer.*—The pall-bearers at the funeral of General Grant, who were appointed by General Grant, were the following gentlemen: General William T. Sherman, U. S. A.; Lieutenant General Philip H. Sheridan, U. S. A.; Admiral David D. Porter, U. S. N.; Rear Admiral John L. Worden, U. S. N.; General Joseph E. Johnston, of Virginia; General Simon B. Buckner, of Kentucky; A. J. Drexel, of Pennsylvania; George S. Boutwell, of Massachusetts; George W. Childs, of Pennsylvania; John A. Logan, of Illinois; George Jones, of New York, and Oliver Hoyt, of Connecticut.

#### ARBOR DAY.

NEVILLE, Mich.  
Give an account of Arbor Day, when first observed, and why. READER.

*Answer.*—The first suggestion of tree planting under the direction of State authority was made by B. G. Northrop, then Secretary of the Connecticut Board of Education, about 1865, in an official State report. In 1876 this same gentleman endeavored to stimulate "centennial tree-planting" by the offer of prizes to the children of Connecticut. But the idea of setting apart a day for the work had originated with ex-Governor J. Sterling Morton, of Nebraska, who about 1872 induced the Governor of that State to issue a proclamation appointing a day for the planting of trees throughout the State. A year or two later the day was made a legal holiday by enactment of the Legislature, and provision was made for awarding premiums to those who put out the most trees in its observance. It is said that nearly 700,000,000 Arbor Day trees are now in thriving condition on the prairie tracts of the State. The example of Nebraska was soon followed by Kansas, and with grand results. Arbor Day in Minnesota, first observed in 1876, resulted, it is said, in planting over a million and a half of trees. In Michigan the Arbor Day law was passed in 1881, and in Ohio in 1882. Since then Arbor Day has been observed in Colorado, Wisconsin, West Virginia, Indiana, Vermont, New Hampshire, Massachusetts, New Jersey, Pennsylvania, Florida, Alabama, Missouri, California, Kentucky, Maine and Georgia. In several other States its observance has been secured by the recommendation of the Grange, the Grand Army of the Republic, or by State agricultural societies. While at the outset economic tree-planting was the primary aim, the adornment of home and school grounds soon followed. On the first Ohio Arbor Day, the children of Cincinnati joined in an attractive celebration, in the form of planting memorial trees and dedicating them to authors, statesmen, and other distinguished

citizens. B. G. Northrop says, concerning the value of the observance of Arbor Day: "While forests should not be planted on our rich arable lands, there are in New England and all the Atlantic States large areas of barrens worthless for field crops, that may be profitably devoted to wood-growing. The feasibility of reclaiming our most sterile wastes is proved by many facts both at home and abroad. Our Atlantic sand plains were once covered with forests and can be re-forested. Over 10,000 acres on Cape Cod, which thirty years ago were barren, sandy plains, are now covered with thriving planted forests."

#### HIRAM POWERS.

IOWA CITY, IOWA.  
Give sketch of Hiram Powers and his noted works. KATE DEWEY.

*Answer.*—Hiram Powers was born at Woodstock, Vt., in 1805. In youth he removed to Cincinnati, Ohio, and there began modeling busts in plaster, a work in which he was employed for some years. In 1837 he went to Italy, and a few years later he took up his permanent abode there. His statue of "Eve" was his first great work. When this was exhibited in 1838 it was at once acknowledged as a masterpiece. It was followed soon after by his "Greek Slave," which became widely celebrated, and placed the artist in the first rank among sculptors of the century. Among the other celebrated works of Mr. Powers may be named "Il Penseroso," "The Fisher Boy," "California," "America," statues of Washington and Calhoun, and many fine busts of public men. Mr. Powers died at Florence, Italy, June 27, 1873.

#### PEARLS AND PEARL FISHERIES.

NUNDA, Ill.  
Give some account of the pearl fisheries; also tell something about the artificial methods of pearl raising. G. E. OSMEN.

*Answer.*—The most important pearl fisheries of the world are those of Ceylon and Coromandel in the Indian Sea, whence pearls have been obtained from the earliest times of history. The divers are natives trained to the pursuit, who are accustomed to descend to the depth of six or eight fathoms some forty times a day. They take down a large stone to hasten their descent and a bag into which they throw the oysters as they tear them from the rocks. They remain under water from a minute to a minute and a half. The fishing season begins in March or April and only continues about a month. A single shell may contain from eight to twenty pearls varying from the size of a small pea to about three times that size. There are pearl fisheries also on the coasts of Java, Sumatra, and Japan. The coasts of Colombia and other points on the shores of South America have yielded large quantities of pearls, but they are usually smaller than the oriental pearls and inferior to them in luster. The cause of the pearl is the introduction of a grain of sand or other foreign substance into the shell of the pearl oyster. This causes an irritation of the delicate tissue of the oyster, which immediately deposits the pearly matter around them for protection. Advantage has been taken of this fact by men who take pains to put substances within the shells of the young oysters to induce the forma-



tion of pearls. The Chinese by these means force a species of fresh-water mussels to produce pearls. Linnæus, the botanist, suggested to the Swedish government that the making of pearls might be forced by boring a hole through the shell, but the plan was not found to be practically successful. False or artificial pearls were first made by the Venetians by lining globules of glass with quicksilver, but the French discovered a more successful imitation in lining glass pearls with wax and fish scales, the latter being taken from the body of the fish while living, to preserve their glistening hue. The jewelers of Rome, too, have a method of coating wax beads, so as to produce a most perfect imitation of pearls.

#### THE VIRGINIA BOND CASE.

HONEY GROVE, Texas.  
Give full particulars of the Virginia bond case.  
S. J. GAROUTTE.

*Answer.*—The most of the State debt of Virginia was incurred in the years preceding the war, and with accrued interest it amounted, in 1866, to \$41,232,361. The unpaid interest during the reconstruction period raised the sum total in 1871 to nearly \$48,000,000. It was claimed that one-third of this belonged to West Virginia, as the debt was incurred while that State was still a part of the Old Dominion. Of the remaining two-thirds, a large portion was refunded under the direction of the Virginia legislature, the coupons of the new bonds being made receivable for State taxes. The next year the Legislature prohibited the receipt of the coupons for taxes, but the act was set aside as unconstitutional by the courts. The bondholders, however, were alarmed, and a compromise was made, by which the unpaid interest was to be refunded at fifty cents on the dollar, and the State debt again refunded in forty-year bonds at a graduated rate of interest—3 per cent for the first ten years, 4 for the next twenty years, and 5 for the final ten years; bonds not to be taxed, and interest coupons to be received for taxes. This arrangement was accepted by the State, and virtually ratified by the Legislature. Previous to this a faction of the Democratic party, under the leadership of General Mahone, had declared in favor of readjusting the debt according to their view of what the State ought to pay, without consulting the bondholders. These Readjusters, as they were called, formed a new party, and, by a coalition with the Republicans, obtained control of the Legislature. This was in 1879: in 1880 the State Legislature passed a bill—known as the Riddleberger bill, because introduced by Mr. Riddleberger now United States Senator—which repudiated all the interest on the public debt which "accrued during the war and the period of reconstruction." This reduced Virginia's two-thirds from nearly thirty-three millions to about twenty millions. This sum the Readjusters proposed to refund in taxable 3-per-cent bonds. Interest coupons were not to be received for taxes, and the bondholders were to get their money—if they could—from any surplus in the treasury not otherwise appropriated. In 1884, however, the legislation forbidding the receipt of interest coupons for taxes

was set aside by the United States Court, and declared unconstitutional because compelling a breach of contract. The Readjusters lost their control of the State government in 1885, but their principles had obtained such a hold on the people that an adjustment of the bond question seems as far off as ever. The most of the State lands are held by capitalists in the North and in England. Negotiations are now in progress between a commission of the Legislature and representatives of the bondholders, but these have not yet been able to agree upon a basis for settlement.

#### A BARBAROUS CONQUEROR.

LINGLEVILLE, Texas.  
Give an account of the Mongol conqueror, Timour. For what purpose did he build a tower of 80,000 human skulls?  
W. E. BOWER.

*Answer.*—Timour, better known in history as Tamerlane, which is simply a corruption of Timour the Lame, was born in 1336, a son of the chief of a Turkish tribe in Kesh, Central Asia. He claimed to be, on his mother's side, a direct descendant of Genghis Khan, the great conqueror of the thirteenth century. Timour, reaching the age of maturity and becoming first the chief of his tribe and then Khan of a large province, aspired to acquire dominion over all the countries once ruled by Genghis Khan. The country between the Jaxartes and Irish Rivers was first subdued, then Khiva and all Khorassan were brought into subjection, with fearful slaughter of all who resisted. Timour now aspired to the conquest of the world. "There is but one God in heaven," he said; "there should be but one ruler on earth." All Persia was soon in his power, the country between the Tigris and the Euphrates submitted, and the princes of Georgia became his tributaries. The Mongol empire to the north was soon overthrown, and the conqueror then penetrated into Russia, threatened Moscow and laid waste the southern provinces with fire and sword. In 1398 he set out for the conquest of India, marched to the city of Delhi, marking his way with 100,000 human corpses. The city capitulated readily, and Timour, after sending an immense store of its wealth to his palace at Samarcand, was about to push his conquests to the southward when he was recalled by the news of a revolt in Georgia. This he subdued, then overran the territory of Syria, and took the revolted city of Bagdad by storm, leaving in the public square of the city a pyramid of 90,000 human heads. On the plains of the Angora, July 20, 1402, the army of Tamerlane, numbering 200,000 men, met that of the Turkish Sultan, Bajazet, having 300,000 men. The Turkish army was totally defeated and the sultan captured. Timour's dominions now covered all Asia, from the Irish and Volga to the Persian Gulf, and from the Ganges to Damascus and the archipelago. He made Solyman, a son of Bajazet, ruler of European Turkey, and his brother Musa ruler of Turkey in Asia, and laid under tribute the Sultan of Egypt. Timour now spent two months in festivities in his palace, after which he prepared for an invasion of China. He set out early in February, 1405, but had gone only 300 miles from the capital when he died of an at-

tack of fever. His army forthwith disbanded, and the invasion of China was given up. Nearly all of the conquests of this ruler were lost almost immediately by his successors. The cruelties of Timour were indescribable. After laying waste a city with fire and sword, it was said that he would have the heads of the slaughtered inhabitants heaped in a pyramid to mark the spot where the city stood. When the people of Herat rebelled, the dead bodies of 2,000 of their number were built up with alternate layers of brick and mortar into a pyramid, as a horrible reminder of the consequences of rebellion.

#### CIRCULATION OF BLOOD IN THE BONE.

SEVASTAPOL, Ind.

Describe the circulation of the blood in the bones.  
PAUL WILKIE.

*Answer.*—The bones are covered externally by the periosteum, a hard membrane, and on the surface of the cavities within by a fine substance called the medullary membrane. An abundant supply of blood vessels feeds the bone, which are conducted into it from the periosteum, and a special artery feeds the medullary canal. If a section of bone were examined under the microscope, in the midst of the compact tissue will be seen several dark, circular, or oval spots, from which lines proceed in all directions. These lines are the openings of vascular canals, called haversian canals, from their discoverer, Clopton Havers. These canals are numerous and they form the most important agency in the circulation of blood in the bone. Their course is parallel to the bone's axis, and they are joined by the contact of short transverse branches, thus forming a network of tubes for the minute vessels which they convey and protect. The arteries and veins have wholly distinct canals, those conveying the veins being the larger, and showing at irregular intervals, where two or more branches meet, pouch-like enlargements which serve as reservoirs to delay the escape of the blood. In some of the irregular bones, as those of the skull, the venous canals are extremely tortuous. The haversian canals vary in diameter from 1-200 to 1-2500, and their average distance from each other is about 1-120 of an inch. As these canals communicate internally with the medullary cavity, and externally with the periosteal surface, the network of blood-vessels for the bone is very complete.

#### FIFTY-SIXTH ILLINOIS INFANTRY.

TOPEKA, Kan.

Give a brief history of the Fifty-sixth Illinois Infantry, giving names of officers.  
M. O. FROST.

*Answer.*—This regiment was raised in Southern Illinois, and was mustered into service Feb. 27, 1862, at Camp Mather, near Shawneetown, and was immediately sent out to join the garrison at Paducah, Ky. It was at the siege of Covington, near which place it was encamped during the summer; took part in the battle of Corinth in October, and during the winter was engaged in guarding the Memphis and Charleston Railroad. Was in the unsuccessful Yazoo Pass expedition in March, 1863, and immediately after joined General Grant's forces in their movement on Vicksburg. It was at the battle of Champion Hills, and in the assaults of May 22 and June 25

before Vicksburg. In October the regiment was sent to join General Sherman before Chattanooga, and was in the attack on Missionary Ridge, where it lost heavily. After that battle the Fifty-sixth was employed in garrisoning several points until May, 1864, when the movement on Atlanta began. During this entire campaign the Third Division, to which the Fifty-sixth belonged, was engaged in protecting the line of communication in the rear of the army, and had a number of skirmishes with the enemy. The Fifty-sixth went through with Sherman to the sea, and took an important part in the battle of Bentonville. On the ill-fated steamer General Lyon, on which a number of soldiers were returning home, 200 officers and men of the Fifty-sixth perished. The remainder of the regiment went to Washington for review; then returned home for muster out, Aug. 12, 1865. The officers of the Fifty-sixth during the most important time of its service were Colonel Green B. Raum, Lieutenant Colonel John P. Hall, Major Pinckney J. Welsh, Adjutant M. Nicholson, and Quartermaster Thomas C. Spann.

#### GRAPHITE.

VALPARAISO, Ind.

Tell where graphite, or plumbago, is found, how it is mined and prepared for use in pencils.

L. B. PHILLIPS.

*Answer.*—The name plumbago, usually applied to graphite, is incorrect, as it contains no lead, but is in composition similar to anthracite coal, containing usually from 90 to 95 per cent of pure carbon. It occurs in masses or layers, in granite, gneiss, mica, schist, and crystalline limestone, and sometimes in greenstone. It is regarded as the result of alteration of the coal formation by heat, and can also be obtained as an artificial product in the manufacture of gas from coal. It is found near Amity, N. Y., and also at Ticonderoga and at Rossie, in the same State. The localities of North Brookfield, Brimfield, and Hinsdale, Mass., and Brandon, Vt., also furnish the mineral, and there is more than one valuable deposit near Attleboro, Pa. There is also a mine near Glenville, Conn., and one at St. John, N. B. The mine at Burrowdale, in Cumberland, England, has been known since the time of Queen Elizabeth, and probably furnished the first lead-pencils ever made. It was in a mountain, and the graphite was found in pieces about the size of a man's fist, imbedded in trap rock. The mine became so valuable as to be an object of plunder. The graphite was of so pure a quality that it needed no preparation, but was sawed up in its natural state for pencils. This mine became quite exhausted, and has not been worked for many years. Graphite has also been found in Germany, France, Austria, and in enormous masses in the northeast part of Siberia. Graphite has a number of uses. Besides its important use in the manufacture of lead pencils it is used for making crucibles, and as linings for small furnaces, as an ingredient in lubricating compounds for machinery, also for polishing purposes, and in the work of electrotyping. Graphite is seldom found in so pure a condition as to be used without previous preparation. It is, therefore, finely pul-



verized, and again formed into solid blocks by the application of great pressure. Great difficulty was experienced at first in consolidating the particles without using some adhesive material, but an English inventor at last devised a plan for thoroughly exhausting the air from the substance, after which it was made by pressure as solid as a natural block from the mine. This is then sawed into fine plates, the plates cut into thin sticks, and these encased in wood to keep them from breaking in use.

THE TRANSVAAL.

PURDUE, Neb.  
Give a sketch of the Transvaal in South Africa, its history, climate, products, and something about its people. G. C.

*Answer.*—The Transvaal is a province of South Africa, comprising an area of 112,700 square miles, and supporting a population, including negroes, of some 800,000, not more than 45,000 being whites. The province is bounded on the south by the Vaal River, on the north by the Limpopo, and on the east by Zululand. The white inhabitants are of Dutch descent, calling themselves Boers, or peasants. They were emigrants to Cape Colony originally, but they never took kindly to British rule, and as early as 1830 the more adventurous of them began "vortrekking," that is, exploring, for new homes in the wilderness. The forced emancipation of slaves in the British colonies constituted a very serious grievance, for the Boers were all slaveholders. So the number of the "vortrekkers," or pioneers, increased and settled the entire country now forming the province of Natal and the Orange Free State, and many even pushed further and sought homes among the Zulus and Basutos. The British soon annexed Natal, but the Orange Free State was allowed to form a republic; so also were the settlers beyond the Vaal, who established a commonwealth about 1850. In 1854 this commonwealth was recognized by the neighboring colonies. The Transvaal Republic was not wholly successful in the work of self-government. The population was scattered, and as most had sought pioneer life to secure freedom from all restraint, it was not easy to induce them to obey laws. They held volksraads or general assemblies of the people, but the taxes imposed by this body, and the laws that it passed, could not be enforced. Besides, there were constantly recurring troubles with the natives, and at last the Cape government made these the pretext for sending for a British Commissioner, who took possession of and annexed the Transvaal territory. There was a meeting of the Volksraad at the time, and the Commissioner claimed that the members had voted for annexation, but the mass of the people were greatly opposed to it. However, they did nothing until the annexation had been formally declared, and then they sent a deputation to England to protest. The British government refused to consider the petition for a restoration of their independence. A second delegation was not more fortunate, and the Volksraad finally proclaimed the annexation null and void and the republic still in existence.

This was in December, 1879, and it was a whole year before these slow-moving people were ready to fight for their liberties. Then they rose in open rebellion. They defeated the small bodies of British troops sent against them. In the Draakenberg Mountains the British force under Sir George Colley was three times repulsed, the third time nearly annihilated and its gallant commander killed, at a point called Majuba Hill, Feb. 26, 1881. An armistice was now agreed upon, and a convention held for the formation of a treaty. By this treaty, which was ratified by the Volksraad of the Boers Oct. 25, 1881, a limited suzerainty was secured to the British government, and the people of the Transvaal were granted full control of their local affairs on their agreeing to abolish slavery and maintain religious tolerance. Troubles between the Boers and the natives concerning the boundary line created a necessity for another convention, which met in 1884, and altogether revoked the British suzerainty. The Transvaal country is well watered, and all the districts are thoroughly adapted for grains and the raising of cattle. The hilly portion of the territory abounds in minerals, copper, lead, cobalt, iron, and coal. Gold has been found in paying quantities, and diamonds are occasionally found. The Boers, however, are unwilling to utilize this source of wealth, as they greatly dread the influx of a mining population, and they passed an act in 1883 forbidding the mining of gold and silver. The wonderful discoveries of precious metals on the borders of their territory in 1885 and 1886 have quite nullified this law. The climate of the Transvaal is temperate, having no great extremes either of heat or cold, and being generally healthy. All fruits and cereals of the temperate zone can be raised there readily.

PRINCE CHARLES—HIGH TREASON.

DEFIANCE, Ohio.  
1. Give an account of the escape of Prince Charles after the defeat at Culloden. 2. How were his followers, who were convicted of high treason, executed? 3. Had George Washington and John Hancock been taken during the revolution, would they have been tried by the same law, and, if convicted, executed in the same manner? G. W. WOODWARD.

*Answer.*—1. The reader will find in Our Curiosity Shop book for 1885 a comprehensive account of the battle of Culloden. After this battle the young Pretender fled, accompanied by a few faithful followers, to the western coast. Hunted hither and thither, he wandered on foot, or cruised restlessly in open boats among the many islands along the shore. The barren isle of Benbecula sheltered him for a month. A price of £30,000 had been set upon his head, and he was relentlessly tracked by spies, but the generosity and loyalty of the people never failed him, and he was freely given shelter and food by rich man or peasant, who alike put themselves in peril of their lives to protect a selfish youth, that would never give them so much as a grateful thought in return. At last, disguised in woman's clothes, he was aided by the devoted and courageous Flora Macdonald to escape to the island of Skye. He remained there for some time, but no opportunity for escape by sea oc-

curing he went to the mainland again and took refuge with a band of outlawed Jacobite freebooters, with whom he was for a time safe. Five months after the fatal battle at Culloden, hearing that a French ship was in waiting for him at the port of Lochnahugh, he hastened thither and embarked with speed for France. 2. Lord Balmorino, Lord Lovat, and others who were taken at Culloden were tried for treason, convicted, and executed according to the barbarous law then in force, by being hanged, then cut down alive and disemboweled. 3. Had Washington, Adams, or Hancock, or any of the active patriots of the Revolution been captured, it is extremely probable that they would have been tried for treason, and, if convicted of the crime, there is little doubt that they would have suffered the same penalty which the Scottish rebels endured.

#### THE PRESIDENTIAL VOTE OF 1860.

Give the popular and electoral vote in 1860, by States.

*Answer.*—The following table gives the information desired:

STATES.	Electors.	POPULAR VOTE.			
		Lincoln.	Douglas.	Breckenridge.	Bell.
Alabama.....	9	13,651	48,831	27,875	
Arkansas.....	4	5,227	28,732	20,094	
California.....	4	39,173	38,516	54,334	6,817
Connecticut.....	4	43,792	15,322	14,641	3,291
Delaware.....	3	3,815	1,023	7,337	3,864
Florida.....	3		367	8,543	5,437
Georgia.....	10		11,590	51,889	42,886
Illinois.....	11	172,161	160,215	2,404	1,913
Indiana.....	13	139,033	115,509	12,295	5,306
Iowa.....	4	70,409	55,111	1,048	1,763
Kentucky.....	12	1,364	25,651	53,143	66,053
Louisiana.....	8	62,811	7,625	22,681	20,204
Maine.....	3		26,693	6,368	2,046
Maryland.....	2	2,294	5,966	42,482	41,760
Massachusetts.....	13	106,533	34,372	5,949	22,331
Michigan.....	6	88,480	65,057	805	405
Minnesota.....	4	22,069	11,920	748	62
Mississippi.....	7		3,283	40,797	25,040
Missouri.....	9	17,028	58,801	31,317	58,372
New Hampshire.....	5	37,519	25,881	2,112	441
New Jersey.....	4	58,324	32,801		
New York.....	35	353,804	303,329		
North Carolina.....	10		2,701	48,539	44,990
Ohio.....	23	231,610	187,232	11,405	12,194
Oregon.....	3	5,270	3,951	5,005	183
Pennsylvania.....	27	268,030	16,765	178,871	12,776
Rhode Island.....	4	12,244	7,707		
South Carolina.....	8				
Tennessee.....	12		11,350	64,709	69,274
Texas.....	4			47,518	15,438
Vermont.....	4	33,808	6,849	218	1,969
Virginia.....	15	1,929	16,290	74,333	74,681
Wisconsin.....	5	86,110	65,021	888	161

\*Electors chosen by Legislature. No popular vote.

#### HOW PRUNES ARE DRIED.

CAPITONE, Kan.

Where are the prunes of commerce raised, and how are they prepared for market?

D. L. HINBARD.

*Answer.*—Prunes are dried plums. Several kinds of plums are raised expressly for drying. In France and Germany, and the wild plum of the Balkan states is also largely used for this purpose. The latter makes an inferior grade of prune, known as the Turkish prune. The fruit is dried in ovens, and for the finer grades much care is used to preserve the full flavor of the plums, by drying them gradually. The plums are picked by hand, after the heat of the sun has dried the dew from them. They are spread in shallow wicker sieves, and kept in a cool and dry

place. When the plums are quite soft the sieves are shut tightly in a slightly heated oven, and left there for twenty-four hours. At the end of that time they are taken out and replaced again after the oven has been slightly reheated, and again left a full day. This is repeated for five successive days, and each time the degree of heat in the oven is somewhat increased. The third day the plums are turned carefully. At the end of the fifth day they are allowed to get quite cold, and are then carefully packed in boxes or jars. The prunes of Turkey are dried with less care, and are usually packed in barrels for transportation.

#### TWENTY-FIFTH ILLINOIS INFANTRY.

CAMPBELL, Ill.

Give a sketch of the Twenty-fifth Illinois Infantry.

W. MAHANNAH.

*Answer.*—The Twenty-fifth Illinois Infantry was mustered into service at St. Louis, Aug. 4, 1861. It went immediately to Jefferson City, thence to Springfield, and finally to Rolla, where it went into winter quarters. It took part in the battle of Pea Ridge March 6-8, 1862, where it lost twenty men in killed and wounded. In the spring the regiment was sent down into Tennessee, and was sent from point to point, scouting and foraging. Was at the battles of Stone River and Mission Ridge, and took part in the Atlanta campaign. Aug. 1, 1864, the regiment was mustered out at Springfield, Ill.

#### THE GALAPAGOS ISLANDS.

KALAMA, W. T.

Describe the Galapagos Islands. By whom are they inhabited, and to what government do they belong?

L. A. JENKINS.

*Answer.*—The Galapagos Islands are a group of small isles lying directly under the equator, about 600 miles from the coast of Ecuador. They were discovered by the Spanish, who named the group from the numerous land tortoises found on them, called galapagos in Spanish, but the single islands have received English names. The group consists of some fifteen islands of various sizes, and a number of small islets, many of them mere rocks. All the islands are of volcanic formation: indeed the general shape of the islands is that of a volcano, with a large central dome, with a wide and shallow center on the top and cones of eruption on the sides. There are about 2,000 of these small craters on the group, but the greater number are extinct. The lower parts of the islands are very arid, but their summits, which are generally covered with clouds, receive from them moisture enough to sustain quite a flourishing vegetation. The climate of the islands is temperate, which is remarkable considering their position directly under the equator, and is due to the cool antarctic current, which, having been deflected by the coast of South America, flows around these islands. There are two seasons, the wet and the dry, the former extending from November to March. The animals and vegetable products of these islands are noteworthy, as among them exist several species not to be found in any other part of the globe. The vegetation of the lower parts of these island hills is but scant, but near the tops grasses and ferns abound, also large cacti, and some cultivation has been made by the inhabitants. In the sev-



enteenth century the Galapagos Islands were a great rendezvous of the buccaneers that infested the South seas, but they had no permanent inhabitants till 1832, when a party of exiles from Ecuador was sent there. Two of the islands only have small settlements, containing perhaps 200 inhabitants. The islands were once regarded as of some importance because of the supply of turtles to be found there, but this supply has been so drawn upon that it is now comparatively quite small. The other animals are principally lizards and other reptiles, no mammalia whatever being indigenous to the islands, though cattle, pigs, and goats have been introduced from the main land. The Galapagos Islands belong politically to Ecuador.

#### THE LAKE SCHOOL OF POETS.

NEEPING WATER, Neb.

Something concerning the Lake School of Poets.  
I. INGERSOLL.

*Answer.*—The Lake School, or Lakists, was the name given to a circle of poets who really inaugurated a revolution in literature. The name given to the school arose from the fact that William Wordsworth, the founder of it, and S. T. Coleridge and Robert Southey, his disciples, took up their residence in the beautiful lake district of Cumberland, England. Though widely different in other respects, they all professed to seek the sources of poetical inspiration in the simplicity of nature, rather than in the works of their predecessors and the fashion of the time. Wordsworth, however, was the only one of the three who was a thorough exponent of the idea, for it may be said that Coleridge found his best inspiration in the pure supernatural, and Southey found his in ancient fables and legends. Still, it is true that the Lake School of Poets left a permanent influence on English literature, for it led men back to nature and brought them to look for the philosophy of human life and destiny in the study of the phenomena of the universe. Though not in any sense scientific the writings of this school yet prepared the minds of men for the great advances since made in scientific thought. The primary inspiration of the lake poets was the great social upheaval of the French revolution. With this they at first professed profound sympathy, and though later the hideous excesses of the revolutionists caused them to repudiate this sympathy, still the key-note of the upheaval, the revolt against the tyrannies of a heartless and artificial civilization, remained with all their works.

#### VARIATIONS OF THE COMPASS.

GREENVILLE, Iowa.

Why is it that the needle of the compass always points toward north? Explain why it varies to east or west of north at certain localities and certain times.  
L. C. FORD.

*Answer.*—The property of polarity in the loadstone, that is, the tendency of the magnetic bar when suspended freely to assume a general north and south direction, is one of the mysteries of nature. It is one of the phenomena that we must accept, but can not adequately explain, for to account for it by the supposition of magnetic currents in the earth itself is simply to bring in another fact as far beyond adequate explanation by the present attainments of the human mind

as the other. The variations of the needle of the compass from strict polarity are numerous, some due to general and some to local causes. The former are beyond the skill of men to control or explain, and all that can be done is to ascertain the amount of variation by reference to the true meridian, and allow for it. On certain lines of the earth's surface, called lines of no variation, the needle points accurately. Such a line now passes through the United States a little east of the eightieth meridian of longitude. East of this line the variation of the needle is toward the west, increasing in amount with the distance from it, and on the other side the variation is toward the east, but is by no means uniform at any point and seems to vibrate between certain limits. In the Eastern States the north pole of the needle is moving westward at the rate of about one degree in twelve years. In London the variation of the needle was in 1576  $11\frac{1}{4}$  degrees to the east; in 1662 it was reduced to nothing, and then slowly advanced westward, reaching a maximum of nearly 25 degrees in 1815, since which time it has been slowly decreasing. The variations of the compass in ships from local causes is often a source of great difficulty as it is not a constant determinable error. It varies with the position of the vessel, being greatest when she heads east or west, and least when she heads north and south. It is also affected by the careening of the vessel, and is much disturbed by the iron used in the construction of the ship. On ironclad ships several compasses have to be used, placed in different parts of the ship, while comparative observations are constantly made of their indications.

#### EMANUEL SWEDENBORG.

WAYNESVILLE, Ill.

Give a biography of Swedenborg and a list of his writings.  
S. A. EDWARDS.

*Answer.*—Emanuel Swedenborg was born at Stockholm Jan. 29, 1688. His father was a pastor of the Swedish Church, and later became a bishop. It is said that from infancy the young Emanuel evinced peculiar powers. He was educated at the University of Upsal, and spent some years in extended travel. At this time his favorite study was mathematics, and he was appointed to the supervision of military works, and wrote several mathematical books. He then turned his attention to the physical sciences, and wrote several volumes on natural phenomena, the most noteworthy of which were "First Principles of Natural Things" and "Economy of the Animal Kingdom." When Swedenborg reached the age of 57 his life took a new direction, and he began to study and to teach concerning religious subjects. He believed that he had received a special revelation, that he had conversed with spirits, who had explained to him the mysteries of creation. His religious writings were numerous, including "Secrets, or Mysteries of Heaven," in 8 volumes, "Heaven and Hell," "The Planets and Their Inhabitants," "The New Jerusalem," "The Apocalypse Revealed," "The True Christian Religion," and many others. The great central idea of his religious system was the doctrine that everything in the natural world was a type of

something existing in the supernatural world. Swedenborg died in London, March 29, 1772. He was never married. In person he was of medium height; his manners were dignified, his countenance mild and pleasing. He had a slight impediment in his speech; in consequence he always spoke slowly and with carefulness. Swedenborg's writings have won many disciples to belief in his so-called "revelations." But his theosophy has exercised less influence upon the intellectual progress of humanity than might have been expected, because it was so largely mixed with mere mysticism.

#### MINNESOTA RAILROAD BONDS.

GRAND MEADOW, Minn.  
Give a history of the bogus railroad bonds of Minnesota.  
S. BOHN.

*Answer.*—When Minnesota was still a Territory some three or four millions of bonds were issued by her in aid of certain railroad projects. The first company that was organized to build these roads failed, forfeiting a partly-built road to the State. A new company was organized, and the road was turned over to it by the Legislature, in a fit of generosity, without an equivalent. The people resented this action of the Legislature, and, apparently regarding the second company as in some way answerable for the failure of the other, refused to pay the bonds of the original subsidy. In 1860 a clause was inserted in the constitution prohibiting the payment of the bonds unless ordered by a direct vote of the people. The question was submitted to popular vote several times, but always decided in the negative. The bondholders for a number of years tried to get the question before the courts, and, therefore, in 1881, Governor Pillsbury, under authority from the Legislature, appointed five well-known judges to pass upon the validity of the repudiation clause put into the constitution in 1860. The question of the power of the Legislature to order payment of the bonds without regard to the wish of the people was also referred to this tribunal, which convened at St. Paul July 25, 1881. Objection was made to the constitutionality of the special court, and the tribunal accordingly adjourned for a week, referring the question to the Supreme Court. Early in September that body declared the special court to be without jurisdiction, since the act creating it was not constitutional, and also went further, and declared the amendment of 1860 null and void, as conflicting with the Federal Constitution. Governor Pillsbury therefore summoned an extra session of the Legislature to consider the matter. This body agreed to a proposition by the principal holder of the bonds to adjust the debt at 50 per cent discount.

#### MARION AND THE BRITISH OFFICER.

STATE LINE, Ind.  
Give the story of the British officer who ate dinner with General Marion on a log. What was the name of the officer?  
M. CHUMLEY.

*Answer.*—We have consulted several biographies of General Marion, but none of them give the name of the officer referred to. The story is this: An exchange of prisoners being pending between the British and American armies, a

young officer was sent from the British post at Georgetown to conclude arrangements for the exchange with General Marion. He was blindfolded and led by a roundabout way through the swamp to the encampment of Marion and his men. After having concluded arrangements to the satisfaction of both sides, the officer was about to depart, when General Marion pressed him to remain to dinner. When the repast was served, it proved to consist solely of roast potatoes and salt, set out on bits of bark, on a table hewn from a rough log. The General ate heartily, and urged his guest to partake generously, saying that the pure air of the forest stimulated the appetite and that "hunger was the best sauce." "But surely," said the amazed British officer, "your fare is not always so frugal." "Indeed," said the General, "this is a luxurious dinner for us, and we have more than our usual allowance in honor of the presence of a guest." The officer was so impressed by the incident that on his return to his post he resigned his commission and retired from military service, saying that men contented under such privations could not be subdued. This incident was immortalized in a painting by J. B. White, which was engraved by Sartain, and is familiar to many.

#### OUR DIPLOMATIC AND CONSULAR SERVICE.

CHICAGO.  
State how many United States Ministers and Consuls are Southerners, and how many served in the Confederate army.  
INQUIRER.

*Answer.*—The following is the apportionment of our foreign representatives, given on the authority of a member of the State Department. In the diplomatic and consular service of the United States there are 106 men from the Southern States and 233 from the Northern. Of the more important positions, 79 are held by Southerners and 146 by Northerners. Of the positions abroad drawing \$10,000 or more in salary, seven are held by Northern men and six by Southern men, and of these six three were in the Confederate service. Of the entire list of 106 appointees in the foreign service from the South, fifty-seven served in the Confederate army.

#### LEFT-HANDEDNESS.

LA GRANDE, Ore.  
Will Our Curiosity Shop settle a much disputed question? Is a left-handed person born with a tendency to use the left hand instead of the right, or is the tendency due to education?  
ROSE TAIT.

*Answer.*—There has been much discussion by scientists on the above question. The opinion now generally held, however, is that the preferential use of the right hand is not due in individual cases to early training but to a superior development of the left lobe of the brain, which, as is well known, is connected with the right side of the body. The general use of the right hand, however, in preference to the left, may be ascribed to the education of the race through generations. No animals show any unusual inclination for the special use of the right limbs. The attribute, belonging purely to the human race, probably arose gradually from the use, by the earliest races of men, of the right arm in fighting, while the left arm was reserved to cover the left side of the body, where wounds, as their experience showed,



were most dangerous. Those who neglected this precaution would be most likely to be killed; and hence, in the lapse of time, the natural survival would make the human race, in general, "right-handed," with occasional reversions, of course, by "atavism," to the left-handed, or, more properly, the ambidexterous condition. The more frequent and energetic use of the right limbs would, of course, react upon the brain, and bring about the excessive development of the left lobe, such as now generally exists. Scientists advise a more general effort to teach children the use of both hands, as a measure of increasing their skill in any handiwork that they may undertake, and of strengthening both the body and the mind.

#### FAMILY OF GENERAL R. E. LEE.

1. When was General Robert E. Lee married and to whom? Give number and names of his children. 2. Answer same questions concerning Alexander H. Stephens.

SUBSCRIBER.

**Answer.**—1. Robert E. Lee was married in 1832 to Mary, daughter of G. W. P. Custis, the grandson of Martha Custis, the wife of General Washington. They had three sons and four daughters. One of the daughters died during the war. All of the sons served in the Confederate army. G. W. Custis Lee, the eldest, was a graduate of West Point, resigned his commission as lieutenant of Engineers in the United States army in 1861, became aide-de-camp to President Davis, and subsequently a general of infantry, and succeeded his father as President of Washington and Lee University, Virginia. The second son, W. H. F. Lee, became a general of cavalry, and the third, Robert E. Lee, served as a member of the cavalry staff. General Fitzhugh Lee, of the Confederate service, was a nephew of General R. E. Lee. General Lee's widow died in 1873. 2. Alexander H. Stephens was never married.

#### THE SIEGE OF OSTEND.

ALEXIS, III.

Give an account of the siege of Ostend. By whom was the town besieged, and for what cause?

W. F. NELSON.

**Answer.**—The provinces of the Netherlands belonged originally to Germany. After the empire of Charles the Great was broken up the provinces gained much individual power, but about the close of the fourteenth century were brought under the control of the dukes of Burgundy. Charles the Bold, Duke of Burgundy, 1467-1477, had no sons, and his dukedom descended to his grandson, the child of his daughter Mary, who had married Maximilian, Archduke of Austria. This young Duke, known as Philip the Handsome, married Joanna, daughter of Ferdinand and Isabella of Spain. Their son Charles became one of the most powerful monarchs of medieval history. He was duke of Burgundy, Archduke of Austria, King of Spain, King of Naples and Sicily, Lord of Spanish-America, and Emperor of the Holy Roman Empire (i. e., Germany). He abdicated in 1556 in favor of his son Philip II, whose second wife was Queen Mary of England. The provinces of the Netherlands had not been satisfied with the fate which made them tributary to Spain. They had possessed many ancient privileges, which the Spanish

rulers did not respect. The edicts against heretics, and the cruelties of the Spanish inquisition, led to a league of the nobles to secure the restoration of popular rights. In 1567 the Duke of Alba was sent with 20,000 Spaniards to reduce the people to subjection, but his atrocities only provoked an increase of the sentiment of revolution, leading to a union of provinces in 1576, for the direct purpose of securing the liberation of the country from Spanish rule. Aid was furnished to the united Netherlands by the English, which much enraged Philip, and led to his unsuccessful attempt in 1588 to invade England with the Armada. But year after year the war in the Netherlands went on. When Philip II. died, bemoaning that he had not crushed the heretics of the Netherlands Philip III. took up the conflict. In July, 1601, an expedition was sent by the Spanish against Ostend, a walled fishing town of about 3,000 inhabitants, important because it was the last place held by the insurrectionary provinces in Flanders. The Spanish force numbered about 25,000 men. The besieged town had some 8,000 soldiers, under the command of Sir Francis Vere, an English General. Ostend was well defended. Its ramparts extended for three miles around the village, and were guarded by numerous outworks. The harbor, which was crescent shaped, was defended by a battery, and under its protection vessels ran safely to the town, and kept the besieged village supplied with provisions. The enemy brought fifty siege guns to bear on the defences, and their firing went on day and night, and it was said that it was sometimes heard in London. Yet the besieged speedily repaired the injuries to the walls and repelled the storming parties. The besiegers used every resource the engineering skill of the day could command. They made floating batteries, they built dykes of wicker-work across the harbor, they undermined the sand hills about the town. They attempted night assaults upon the fortifications, but the Dutch met these by hurling blazing pitch upon them and opening sluices which flooded the lowlands beneath the walls. Thousands of the besiegers perished thus, and many thousands more died of a pestilence which broke out among them, but still the Spanish would not give up the siege, and slowly the outer works of the village were destroyed, and the besiegers came nearer and nearer to the town. Early in April, 1603, the Spanish, by a fierce night assault, captured the outer line of fortifications. The Hollanders fought desperately to regain them, but in vain. The enemy held them, and turned their guns against the main defences of the town. In 1603 Spain was aided by the Genese, who sent galleys to attack and plunder Dutch vessels, and furnished to the besieging army a commander, Ambrose Spinola, whose skill ensured them victory. His plan was to abandon dykes and floating batteries, and turn all efforts to effect an entrance by undermining and blowing up the fortifications. The Hollanders met this by building new lines of entrenchments, which repelled the advance of the Span-

iards even after they had destroyed the outside line of works. Such were the desperate straits of the besieged that for lack of sufficient earth to build their fortifications, they had to fill them in with bodies of the dead. As the enemy forced its way nearer and nearer, a small part of the remaining works were marked off, and fortified with every material at command to be defended to the last extremity. This was called Little Troy, and held out nearly four months under a most terrible fire from the enemy. At last Ostend surrendered, Sept. 20, 1604, after a siege of three years and twenty-seven days. Among the ruins of the defenses of the town there was literally not one stone left upon another. The buildings had long since all been destroyed, and the few inhabitants left lived in holes in the ground. Everywhere were rotting corpses and whitened bones. To destroy and capture this little town, of which the victors made no use when they had gained it, more than 100,000 lives and \$4,000,000 had been sacrificed.

#### STEREOTYPING.

UTICA, N. Y.

Give the process of stereotyping plates for printing. How can a young man learn the business?

J. J. THOMAS.

*Answer.*—The stereotyping process is very simple. The type being set, corrected, made into pages and fixed in a frame, is laid upon the stone or hard table used, face upward. A little fine oil is brushed over it, to prevent the papier mache from adhering to the face of the type. This papier mache, which is used for making the matrix or mold, is formed by pasting upon a sheet of tough brown paper several sheets of tissue paper and a sheet of soft absorbent white paper. It is made in sheets, and usually to make a matrix of the desired thickness several sheets are used. It is kept moist for use, and lightly covered with pulverized French chalk when laid upon the face of the type. Then it is beaten with a stiff brush to force the soft paper into all the interstices of the type. Other sheets of the prepared paper are added to secure the desired thickness, the whole then is covered with a woolen blanket and put into a press, the bed of which is moderately heated and the press screwed down. The heat soon dries the matrix, which when taken out of the press is a stiff card showing a perfect reversed impression of the types. A mold of metal is then taken from the matrix, in which the exact face of the types is reproduced for printing. Stereotype metal is softer than ordinary type metal, and is made of a mixture of lead, antimony, and tin or bismuth. One of the best formulæ is said to be lead, nine parts; antimony, two parts; bismuth, one part. When the plate is to be run on a rotary press, it is cast in a box which is curved inside, so that the form of the plate will fit the cylinder of the press, when complete. This is the method of stereotyping plates in large newspaper offices, and an entire large plate can be made in a quarter of an hour, or even less time. The papier mache process was first used in France in 1843, and a few years later was put to use in New York. The quickness and cheapness of the process has brought it

into general use, but for fine book work the plaster process is still employed, as giving a more perfect result. This process was invented about 1731, and was used altogether until the invention of the papier mache method. By it the matrices are made of plaster of Paris, which is a slower and more costly way than making them of paper pulp, but produces a finer and cleaner plate when finished. A young man desirous of learning the stereotyping art can do so by getting into a large printing office in any city and mastering its details.

#### GENERAL GEORGE H. THOMAS.

WILLOW SPRINGS, Neb.

Give sketch of the life and services of General George H. Thomas. Is it true that he offered his services first to the Confederacy? G. W. BULLIS.

*Answer.*—General George H. Thomas was born in Southampton County, Va., July 31, 1816. He was educated at West Point, and saw his first service in the Seminole War in Florida, in 1841, where he was brevetted first lieutenant for gallantry. He won distinction also in the Mexican war, where he received brevet of captain and major for gallant conduct at Buena Vista. He was instructor of cavalry and artillery at West Point from 1851 to 1854, and afterward served in California and Texas in the wars with the Indians until 1860. In August of that year, having been wounded in a skirmish, he came to his home on a leave of absence. There is little doubt that he shared in the general sentiment of the South during the agitation preceding the war, that he had no sympathy with the Northern agitation on the subject of slavery. But when the first gun was fired, his choice was made in an instant, there was no wavering of purpose. Hastening to Carlisle, Pa., April 14, 1861, he reported for duty, and set about the work of reorganizing his regiment which had arrived at that point in a disorganized condition and shorn of its equipments through the treachery of General Twiggs. Two months later he crossed the Potomac at the head of his command. He had charge of the operations in the Shenandoah Valley, and in August was transferred to the department of the Cumberland as Brigadier General of Volunteers. He commanded at the battle of Mill Springs, and there won one of the important victories of the earlier history of the war, and was engaged in many of the operations of the Western army during 1862, commanded the right wing at the battle of Perryville, Oct. 8, and the center at the fight of Stone River. Thomas was now assigned to the command of the Fourteenth Army Corps, which held the right and center at the battle of Chickamauga. Oct. 19 he was placed in command of the Army of the Cumberland, and a few days later received the commission of brigadier general of the regular army. General Thomas' troops formed the right wing of Grant's army at the storming of Mission Ridge, and were engaged throughout the campaign of 1864 almost daily from May to September 1. When Atlanta was captured, Sept. 27, Thomas was detached from the main army in Georgia, and placed in chief command in Tennessee. Dec. 15 he defeated General Hood's force at the battle of Nashville,



and for his success here received the appointment of Major General in the regular army, a vote of thanks from Congress, and a magnificent gold medal from the Legislature of Tennessee. During the remaining months of the war he contributed materially to the overthrow of the rebellion by organizing raiding expeditions, and aiding other departments. He was in command in Tennessee and other parts of the South until 1869, when he was transferred to the Military Division of the Pacific. He died at San Francisco March 28, 1870.

## CHINESE BURIAL CUSTOMS.

WESLEY, D. T.  
Give description of some of the curious Chinese burial customs. How did the custom of burning papers at the grave originate?  
S. W. CLARK.

*Answer.*—The first act upon the decease of a person in China is to call in a priest, whose prayers are supposed to free the departed spirit from the necessity of going to hell, and to admit him to paradise. It is not customary to bury the corpse immediately, but it is put into the coffin, arrayed in the most splendid garments that the family can afford; in one hand is placed a fan, and in the other a prayer written on a piece of paper, which is the letter of recommendation to open the gate of heaven. The coffin is a very solid, substantial case, the corpse when put in it is laid in a bed of lime or cotton, or covered with quick-lime, and the edges of the lid are closed with mortar in the groove so that no smell escapes, the coffin is then thoroughly varnished. Bodies are in some instances thus kept in or about the house for many years, and incense is burned before them morning and evening. They are kept on trestles in the entrance hall or sometimes in a chamber set apart. Sometimes a body is thus kept because the family can not afford funeral expenses, which are considerable, sometimes because opportunities and means do not permit them to lay it in the paternal sepulcher, and finding a lucky place of burial may take some time. For this is by no means an easy task. It is done by geomancers, a class of quacks who pretend to supernatural wisdom, and who find the selection of propitious sites for burial a very important source of income. The nature of the site is regarded as having important influence on the prosperity of the living, the people fearing ill luck, disease, and accident if the dead are not satisfied with the site of their graves, and being therefore willing to pay large prices for immunity from such calamities. When the day of burial arrives, which is—if the satisfactory place for the tomb has been found—the nearest lucky day to the third seventh day after death, the friends assemble at the house. An offering of cooked provisions is laid out near the coffin. (This is intended to occupy the attention of the spirit of the dead, which is supposed to linger near the body, or any other vagrant spirits that may be hovering around, and keep them from doing any malicious mischief or harm to the living. All the mourners are dressed entirely in white, and they assemble about the coffin and in turn prostrate themselves before it, a band of music playing

meanwhile. The procession is then formed, the coffin going first, borne on an unwieldy bier carried by sixty-four men or even more. A man must go before the procession and scatter paper money to buy the good will of any stray tricky spirits that may be prowling about. Immediately after the coffin in a separate sedan is borne the ancestral tablet of the deceased, with the offering of food previously spoken of. Different figures, banners, and tablets are also carried, according to the means and rank of the family, which, with the many friends and the crowd attracted by the show, often stretch out the procession to a great length. When the grave is reached, the coffin is let down, and lime is abundantly mixed with the earth thrown in upon it. Crackers are then fired, libations are poured out, prayers are recited, and finally paper models of houses, clothes, horses, money, and everything that the dead man can possibly want in the land of shadows, are burned. The origin of this custom is unquestionably the idea that the ghost would need or desire in his other life everything that he used or enjoyed in this. The more ancient custom was to burn his household belongings, to kill upon his grave his favorite horse, nound, or bird, sometimes his chosen servant, that their shadow might go with him into the life beyond. But the spirit of thrift soon evolved the idea that the shadows of representations of the useful articles would be of quite as much use in the ghost world as shadows of the real things, and with wise economy they were substituted for the more valuable substances. After the funeral, the elaborate dishes that have been borne to the grave, and in some impalpable way have regaled the ghostships attendant upon the dead body, are carried back, and the mourners feast comfortably upon their solid realities.

## THE CORDILLERAS—THE COW TREE.

CLARK CREEK, Wis.  
1. Where are the Cordilleras Mountains? 2. Is there such a thing as a cow tree, and where does it grow?  
IRA LIVES.

*Answer.*—1. Cordillera is a Spanish word meaning a mountain chain or ridge. It is commonly applied to the whole or part of the Andes chain. Some writers consider the mountain ranges of Central America, and those extending northward near the Pacific coast of North America as one and the same range. But others regard the break in the chain at Panama as so complete as to constitute the two as distinct ranges, though similar geological formation furnishes a link that can not be overlooked. The name Cordilleras is generally confined to the mountain ranges of Central America and Mexico. Here the chain forms two ranges; that on the west is a straight and narrow mountainous belt; that on the east is wider, not so high, and sends off spurs toward the Atlantic. Between the ranges is a fertile central plateau. The mountains are all largely of volcanic formation, and many still active volcanoes exist in the range. In Mexico the general altitude of the range is lower than it is throughout Central America, and the hills seem to spread out into a vast plateau, whose greatest width near the latitude of the City of

Mexico is 360 miles. The volcanic mountains, which are found as far north as latitude 24 degrees, rise from the great plateau in stupendous masses. The highest volcanoes in the Cordilleras are Agua, the water volcano, 14,000 feet high; Sapotitlan, 13,000 feet; Atitlan, 12,500 feet. These are all in Guatemala. In Mexico are Popocatepetl, 17,220 feet high; Iztaccihuatl, 15,705 feet; Orizaba, 17,879 feet, and many others of less altitude. The Cordilleras range is rich in minerals, but its wealth has been but imperfectly explored. 2. The cow-tree is an evergreen tree found in the mountains of South and Central America. Its sap almost exactly resembles milk, and flows copiously from wounds made in the bark of the tree. Alexander Van Humboldt was the first to bring this remarkable tree to the notice of Europeans. The natives of the country where the cow-tree grows are in the habit of drinking freely of this milk, and find it both palatable and nourishing.

#### ASSASSINATION OF PRESIDENT GARFIELD.

ABBEYVILLE, Va.  
Give a brief account of President Garfield's assassination and death.  
ANNA JOHNSTON.

*Answer*—July 2, 1881, at 9:25 a. m., as President Garfield was entering the Baltimore and Potomac Railroad Depot at Washington, preparatory to taking the cars for a two week's jaunt in New England, he was fired upon and severely wounded by Charles Jules Guiteau, a native of Illinois, but of French descent. The scene of the assassination was the ladies' reception-room at the station. The President and Mr. Blaine, arm in arm, were walking slowly through the aisle between two rows of benches on either side of the room, when Guiteau entered by a side door on the left of the gentlemen, passed quickly around the back of the benches till directly behind the President, and fired the shot that struck his arm. Mr. Garfield walked about ten feet to the end of the aisle, and was in the act of turning to face his assailant when the second shot struck him in the small of the back, and he fell. The assassin was immediately seized and taken to jail. The wounded President was conveyed in an ambulance to the White House. As he was very faint, the first fear was of internal hemorrhage, which might cause speedy death. But as he rallied in a few hours, this danger was thought to be averted and inflammation was now feared. But as symptoms of this failed to appear, the surgeons in attendance concluded that no important organ had been injured, that the bullet would become encysted and harmless, or might possibly be located and successfully removed. By the 10th of July, the reports were so favorable, that the President's recovery was regarded as certain, and public thanksgivings were offered in several of the States, by order of the Governors, for his deliverance. The first check in the favorable symptoms occurred on July 18, and July 23 there was a serious relapse, attended with chills and fever. The wound had been frequently probed but without securing any favorable result. The induction balance was used to locate the ball, and was regarded as a success, though subsequently its indications were known

to have been altogether erroneous. The probings, therefore, in what was assumed to be the track of the ball, only increased the unfavorable symptoms. During the entire month of August these reports were alternately hopeful and discouraging, the dangerous indications being generally on the increase. By Aug. 25 his situation was understood to be very critical, though an apparent improvement on the 26th and 28th again aroused hope. At his own earnest desire the President was removed Sept 6 to Elberon Park, near Long Branch, N. J., in the hope that the cooler air of the seaside might renew his strength more rapidly. However, the improvement hoped for did not appear. On Sept. 16 there was a serious relapse, with well-marked symptoms of blood poisoning, and Sept. 19 the President died. A post mortem examination showed that the ball, after fracturing one of the ribs, had passed through the spinal column, fracturing the body of one of the vertebra, driving a number of small fragments of bone into the soft parts adjacent, and lodging below the pancreas, where it had become completely encysted. The immediate cause of death was hemorrhage from one of the small arteries in the track of the ball, but the principal cause was the poisoning of the blood from suppuration.

#### ROBERT EMMET'S LADY LOVE.

CHICAGO.  
Give a brief sketch of the lady that married Robert Emmet, the Irish patriot.  
T. GARBULT.

*Answer*.—Robert Emmet was never married, but was affianced, a short time before his death, to Miss Sarah Curran, a daughter of the noted Irish orator. She was a young girl, only 18 years old at the time, beautiful and accomplished, and of singular sweetness and gentleness of character. A most tender attachment existed between the lovers, and it is probable that Emmet, after the disastrous end of his first attempt at rebellion, could have escaped safely from the country had he not returned to Edinburgh for a last interview with Miss Curran before his departure. He was then apprehended, tried, and convicted of high treason. Emmet's attachment for Miss Curran, and frequent letters to her, had brought her father under suspicion, a fact which he resented by treating the young girl with severity, forbidding her to mention Emmet's name, and keeping her under restraint. After the execution of her lover, Miss Curran sank into a condition of hopeless melancholy. She was so unhappy at her home, feeling herself under her father's displeasure, that a sister took her to Cork and placed her with a kind Quaker family. While here she met an officer, Captain Sturgeon, who was so touched by her friendliness, grief, and beauty that he sought her hand in marriage. She told him that her heart was broken, but he pressed his suit, and, having followed her to the continent, whither her friends took her for her health, he succeeded in winning her consent to their union. They were married, and Captain Sturgeon was most kind to his young wife, and did everything in his power to make her happy, but her great sorrow had sapped the springs of life, and she died about two years after her marriage. It was con-



cerning Miss Curran that Moore composed one of the most beautiful of his Irish melodies, as follows:

"She is far from the land where her young hero sleeps,

And lovers are round her, sighing;  
But coldly she turns from their gaze and weeps,  
For her heart in his grave is lying.

"She sings the wild songs of her dear native plains,

Every note which he loved awaking;  
Ah! little they think who delight in her strains,  
How the heart of the minstrel is breaking.

"He had lived for his love, for his country he died,

They were all that to life had entwined him;  
Nor soon shall the tears of his country be dried,  
Nor long will his love stay behind him.

"Oh! make her a grave where the sunbeams rest,  
Where they promise a glorious morrow:

They'll shine o'er her sleep, like a smile from the west,

From her own loved island of sorrow."

#### VELOCITY OF ELECTRICITY—THE SUN'S MOTION.

TOWANDA, Kan.  
1. How is the velocity of electricity determined?  
2. What motion has the sun except rotating on its axis, and what is its velocity? E. BROWN.

*Answer*.—1. The mode of ascertaining the velocity of electricity was the invention of Mr. Wheatstone, the electrician. He took a Leyden jar, connected one rod with the inner coating, and one with the outer coating of the jar. The other ends of the rods he placed near the ends of two long bent wires, which were to act as insulated conductors. The current of electricity from the positive to the negative pole of the circuit, or vice versa, must pass through these conductors, to each of which he gave a length of 402 meters. Behind these he placed a rotating mirror. Now, when the current was passing through this apparatus, sparks were visible between the ends of the conductors and the rods from the jar, and also between the conductor ends—three in all. While the mirror behind was motionless, these sparks were seen in it as points of light simply, but when the mirror rotated the sparks appeared as three circular lines parallel to each other. Now, the inference of the experimenter was that if the three sparks appeared at once—in other words, if the electricity required no time to pass from one point to another—the lines in the moving mirror would appear and disappear simultaneously; but, being continuous, an appreciable time must elapse for their movement. This time is plainly calculable when the rate of rotation of the mirror and duration of the spark is known, and Mr. Wheatstone found that electricity traveled through 402 meters of copper wire in .000000868 of a second, and would therefore, in a second, journey through a copper wire 463,133 kilometers in length. This estimate can not be regarded as exact, but as a fair approximate of the velocity of electricity. 2. The sun has three real motions; 1, an axial rotation, which is plainly shown by the appearance and disappearance of

spots on its surface, and has been thus proved to have a mean period of  $25\frac{1}{3}$  days; 2, a motion about the center of gravity of the whole solar system, but in consequence of his very much greater mass than that of all the other bodies of the system, this center is always within the volume of the sun itself; and, 3, a progressive motion in space toward the direction of the constellation Hercules. The fact of this last-named solar motion is regarded as certain, but the rate of motion is not known. It is estimated that it moves at about 150,000,000 miles per year, though it is quite probable that the rate of motion far exceeds this estimate.

#### CROCKERY AND CHINAWARE.

CARL, IOWA.  
How is china ware made and of what materials? J. N. RAMSER.

*Answer*.—The base of the materials for all kinds of pottery, fine or coarse, is clay, and upon the kind of clay, the way in which it is mixed, and the degree of heat used in fusing it, depends the quality of the product. The materials used for crockery are kaolin, pipe clay, quartz or flints, and feldspar, the kaolin and quartz to give hardness, and the pipe-clay and feldspar to yield a flux sufficient to bind the mass firmly together. The materials are usually ground into a fine powder and then mixed with water in a machine called a "blunger," which is a box containing strong paddles worked very rapidly. When the matter has become thoroughly incorporated it is drawn off and forced by a hydraulic pump through a series of sieves, and then worked up in what is called a pug mill, after which it is cut by a fine wire into rectangular blocks. These blocks are then molded into the shape of articles desired, some by the use of a lathe, and some by simply shaping them with the hands. The pieces are then partially dried, turned on a lathe with a sharp tool to give them a uniform surface, dried slowly in a drying-room, then baked in an oven. In baking, the ware is kept at a white heat for thirty-six hours. The pieces are then glazed by being dipped in a mixture of ground feldspar, ground flint, sal soda, plastic clay, and boracic acid, the whole pulverized and mixed with a small proportion of white lead and a little cobalt blue. This glaze is mixed with water, the articles are dipped in it one by one, receiving a deposit like a thin paste on the surface, which, when placed in the oven again, fuses and flows over it, making a coating of glassy smoothness. Fine white china, or porcelain, is made of finer materials than crockery, but the process of manufacture is similar. For full account of how designs are printed on china see *Our Curiosity Shop* book for 1886.

#### NICKEL.

HAWARDEN, IOWA.  
How is nickel obtained? Is it a natural or manufactured substance? E. R. MCCORKELL.

*Answer*.—Nickel is an elementary metal. It was first obtained as a metal about 1751 in Germany. But the ore had been long known to miners, who called it Kupfernickel, or Old Nick's copper, because though it looked like copper ore, no copper could be obtained from it. When pure, nickel is silvery white, and does not oxi-

dize or tarnish in the air. It can easily be hammered out into thin sheets or drawn into wire; it is stronger than iron, and almost as hard to melt. Its chief use is for plating other metals, as it gives them a beautiful, silverlike surface which is quite easily kept from rusting. It is also used in alloys. German silver is made by taking one part nickel, one part zinc, and two parts copper. Our 5 and 3 cent pieces are made of three parts copper and one part nickel. Nickel is found in many parts of the world, but the principal mines are in Russia, Sweden, Germany, Austria, England, and Scotland. In this country it is found in the States of Pennsylvania and Connecticut.

#### THE SIEGE OF FORT ERIE.

GIVE the history of the ruined fort, near the village of Fort Erie, Canada, opposite the city of Buffalo.

CHICAGO.

W. J. M.

*Answer.*—This small fort, which had been taken by American troops under Generals Gaines and Brown, was besieged by the British forces early in August, 1814. For over a week the works were bombarded steadily by the British cannon, but very little impression was made on them. On the night of Aug. 14 the Americans suspected that the British were intending to storm the works, and made preparations to repulse them. At 2 o'clock in the morning a furious assault was made on the battery that had been erected at the southern extremity of the fort. The Americans, being awake and ready, met the enemy with a terrific fire, and after five gallant attempts to storm the works the British retreated, with heavy loss. In the meantime an assault had been made by the British commander, Drummond, on the fort itself with more success. The assaulting party gained possession of one of the main bastions, and had killed several of the American officers with the bayonet, when the entire bastion blew up, killing a large number of officers and men. The struggle was then for a time suspended, but when each army had been strengthened by reinforcements, was begun again. There had been much sickness in the British camp, which had weakened their force, and the American generals therefore determined upon a sortie from the fort. This was made Sept. 17, and by the help of a fog was such a complete surprise to the British that within forty minutes their entire line of intrenchments had been taken. Public honors were awarded to the American generals, and Congress ordered a special medal struck off for each. Fort Erie was soon after abandoned and was never rebuilt.

#### THREE GREAT RAILWAY DISASTERS.

GIVE briefly the particulars of the railway disasters at Angola, N. Y., Ashtabula, Ohio, and Spuyten Duyvel, N. Y.

ROCKINGHAM, VT.

J. B. DIVOLL.

*Answer.*—The Angola horror occurred Dec. 18, 1867, on the Lake Shore Railroad. It was caused by the breaking of a wheel, which threw the rear passenger car from the track while passing over an embankment twenty feet high. The car fell down the embankment, and was set on fire as it fell. Of the fifty passengers in the car, forty-two were burned to death. The Ashtabula horror also occurred on the Lake Shore Railroad. It was caused by the giving way of the bridge over Ash-

tabula Creek under the Western bound express train, on the evening of Dec. 29, 1876. The train, which consisted of eleven cars and two engines, with 160 passengers, was precipitated into the creek seventy feet below. The wreck immediately took fire, and many who were not killed by the fall were burned to death. Of less than sixty persons who were rescued, a number died afterward from the effect of their injuries. There was a terrible snowstorm at the time, which prevented help from reaching the scene quickly. From the attendant circumstances, the accident was rendered one of the most terrible railway disasters on record. The Spuyten Duyvel disaster also occurred in the winter, and had the attendant horror of fire, which still continues to enhance the frightfulness of a mishap on the railway at that season, although the application of a little science, allied with common sense, might altogether prevent this shocking culmination. The last-named disaster occurred on the New York Central Road, Jan. 13, 1882. The regular train had stopped in a cut to regulate a tightened air-brake, when a special train rushed into it, telescoping two passenger cars. Brakemen had been sent back to signal the special train, but a curve in the road prevented their being seen soon enough to prevent the disaster. Nine passengers were killed and a number of others were severely wounded.

#### ISRAFIL.

GREENUP, ILL.

What is the legend of Israfil and who wrote the poem bearing that name, published in *Harper's Magazine* of May, 1877?

M. SPENY.

*Answer.*—Israfil is one of the angels of the visions of the Koran. He is the angel of music, who possesses the most melodious voice of all of God's creatures. This is the angel who is to sound the resurrection trumpet and will ravish the ears of the saints in paradise. Israfil, Gabriel, and Michael, according to the Koranic legend, were the three angels that warned Abraham of Sodom's destruction. The poem referred to was written by Mrs. Frances Laughton Mace.

#### LAKE TOHAD.

RIOM HILL, Mo.

Tell something about the country around Lake Tohad, in Africa. Is the water of the lake salt or fresh?

G. R. THOMPSON.

*Answer.*—Lake Tohad is in Central Africa, near the southern border of the desert of Sahara, in the western part of the Soudan. Its length from northwest to southeast is about 150 miles and its greatest width 120 miles; its total area about 10,500 square miles, but it varies greatly in size in the dry and the rainy season. It rarely exceeds fifteen feet in depth, and many parts in the dry season are merely a reedy swamp, while nearly two-thirds of its area is taken up by islands. The elevation of the lake above the sea is about 1,000 feet. On the north side of the lake the ground is high and wooded, on the other sides it is low and flat, and covered with rushes and reeds. The country around the lake is fertile. There are a number of villages near the lake, and the islands are densely populated. The water of the lake is fresh and sweet, the shallower parts are covered with aquatic plants, and hippopotami, crocodiles, turtles, fish, and water fow



abound. Herds of antelope and bands of elephants are also seen. The inhabitants of the country are of various tribes, some of them pure negro; others of Arabian descent. These people raise cattle and goats and cultivate maize, cotton, and various fruits. Lake Tchad was known to Leo Africanus in the sixteenth century, but the first Europeans to visit it in modern times were the explorers Denham and Clapperton in 1823. Since then its vicinity has been explored by several travelers.

## SCHUYLER COLFAX.

ORANGE, Pa.  
What relation  
was to General Schuyler?  
D. O. CULVER.

*Answer.*—Schuyler Colfax was a grandson of the noted general. He was born in New York City March 23, 1823. He received a common school education. About 1836 he went with his mother and step-father to Indiana. They lived at New Carlisle, and afterward went to South Bend. Here young Schuyler studied law, and afterward established a newspaper. In 1850 he was a member of the Indiana State Constitutional Convention, and the next year was a candidate for Congress, but was not elected. In 1856 he was sent to Congress by the Republicans, and was re-elected for six consecutive times. In December, 1863, he was made Speaker of the House, and re-elected in 1865 and 1867. He was elected Vice President on the ticket with Grant in 1868, and in 1872 retired from public life. He died of disease of the heart Jan. 13, 1885.

## A. SHOCKING MURDER.

DELL RAPIDS, D. T.

Can Our Curiosity Shop give the circumstances of the murder of Captain James Purrinton and his family in Augusta, Me., in 1806? Was Universalism the cause of it, as was asserted?  
C. E. BEAN.

*Answer.*—The history of Augusta, by James W. North, gives the circumstances of this shocking murder as follows: Captain James Purrinton came to Augusta in August, 1805. He had a fine property, which he had inherited from his father, and was accounted in comfortable circumstances. He had a wife and eight children, the eldest of these 19 years old, the youngest 18 months. He was a man of reserved and quiet mien, but was always kind and affectionate to his family and obliging toward his neighbors. He evinced no noticeable peculiarity except a vacillation in matters of religious opinion. He had belonged to several different churches, and soon after he came to Augusta became a Universalist. His crops failed in the summer of 1806, and he became very despondent on that account, frequently asserting that all his family would have to go to the poor-house. He had also been conducting himself very strangely for some days previous to the murder, and his wife had been much alarmed, fearing that he would commit suicide. On the morning of July 9, 1806, he rose between 2 and 3 o'clock in the morning, and with an ax killed his sleeping wife and six of his children, and wounded severely the other two. Then he cut his own throat with a razor. His second son, who, having been aroused, was able to escape with but a wound of the ax, alarmed

the neighbors, but aid did not arrive in season to save any of the victims of the maniac's rage. There was unquestionably, it was shown at the inquest, hereditary insanity in Captain Purrinton's family, but the Coroner's jury found that he did, "of malice aforethought," kill and murder his wife and children, and "as a felon did voluntarily kill and murder himself." The quiet community where this dreadful deed occurred was so shocked from its peaceful tenor by it that enraged popular feeling seemed determined to find something on which to wreak itself. Therefore a connection was found between the wretched maniac's newly adopted belief in Universalism and his deed, and thus a bitter prejudice, that was not allayed for many years, was aroused against Universalists. But no intelligent persons would now think of accounting for a crime in this way. According to the old idea, also, of punishing the suicide after death, the body of Captain Purrinton was buried without any religious rites, with the murderous weapons that he had used, in the public highway.

## LEGENDARY SAVIORS.

BARNESVILLE, Kan.

Give the names of the world's sixteen crucified saviors and tell what systems of religion, if any, they established.  
D. H. HILL.

*Answer.*—Reference in the above inquiry is no doubt made to a book published some ten years ago, entitled "The World's Sixteen Crucified Saviors; or, Christianity Before Christ." The book was written by one Mr. Graves, of Richmond, Ind. He asserted that previous to the time of Christ there had been no less than sixteen individuals, more or less legendary, whom popular tradition asserted to have suffered death by crucifixion. The list which he gave was as follows: Christna, of India, 1200 B. C.; the Hindoo Sakia, 600 B. C.; Thammuz, of Syria, 1160 B. C.; Wittoba, of the Telengonese, 552 B. C.; Lao, of Nepal, 622 B. C.; Hesus, of the Celtic Druids, 834 B. C.; Quexalcote, of Rome, 506 B. C.; Prometheus, 547 B. C.; Thulis, of Egypt, 1700 B. C.; Indra, of Thibet, 725 B. C.; Alcestes, of Euripides, 600 B. C.; Atya, of Phrygia, 1170 B. C.; Crite, of Chaldea, 200 B. C.; Bali, of Orissa, 725 B. C.; Mithra, of Persia, 600 B. C. This is certainly a very imposing list, but unfortunately it will not bear examination. Mr. Graves' scholarship hardly equalled his enthusiasm when he compiled it. To begin with, the Hindoo Sakia (or Sakya) is none other than Gautama Buddha. He has no place among myths, but is an historical character who lived in the fifth century before Christ. He was a reformer and the founder of a religious sect, but was never crucified. All accounts agree in asserting that he died a natural death at about the age of 80 years. For the other characters, who are all mythical, Thammuz was the Syrian name of Adonis, the lover of Venus. He was one of the favorite characters of both Greek and Phœnician mythology. He was not put to death by crucifixion, however, but was killed by a boar while hunting. Wittoba belongs to the mythology of Southern India, and is only another name for Christna, one of the incarnations of Vishnu.

Iao, of Nepaul, is one of the mythical deities claimed by a minor sect of the Buddhists. Hesus, or Esus, was the war god of the Celts, corresponding to Mars in the mythology of the Greeks and Romans, or Thor with the Scandinavians. His symbol was the oak, which the Celtic Druids worshipped. Quexalcote is the Mexican god of light or of the air. The historian Prescott gives his name as Quetzalcoatl, and gives the legend of his history somewhat at length. While he was upon the earth it is said that he instructed the natives in the use of metals in agriculture, and in the arts of government. At last he incurred in some way the wrath of one of the great gods, and was forced to abandon the country. His followers went with him to the shores of the Mexican gulf, where he bade an affectionate farewell to all, promised them that he and his descendants would visit them, then in his wizard skiff made of serpents' skins he embarked on the great ocean for the fabled land of Tlapallan. There is no suggestion in any of the legends concerning him of his death by crucifixion or other mode of violence. Quirinus was the name given to Romulus after his mysterious disappearance, when the people had deified him and built a temple in his honor. The name was also given to Mars, his reputed father. To apply the term savior to him is simply an absurd misuse of words. Prometheus is a pure myth. He made men of clay and stole fire from Heaven to animate them. For this offense he was chained to Mount Caucasus by Jupiter, and a vulture fed upon his liver, which grew again as fast as it was destroyed. After thirty years of torment Hercules set him free. The myth is interesting, but can not in any sense be regarded as a type of the Christian Savior. Taulis, of Egypt, or Zulis, was a name applied to the sacred bull Apis. This animal was believed to be glorified by the indwelling of the god Osiris. He was known by certain marks, was taken when found to the temple amid great rejoicing of the people. If he lived to be 25 years old he was sacrificed, and then the whole land was in mourning until a new Apis was found. This sacrifice bears some resemblance, perhaps, to that which the Hebrews offered in expectation of a Savior, but is wholly destitute of the beautiful symbolism of the latter. Indra, of Thibet, was the sky god of early Brahmanism. He corresponds, in the Vedic mythology, to the Jupiter of the Greeks. Alceos is Alceste, a character of Grecian poetry. Her touching story is given in a drama by Euripides. She was the wife of Admetus, who was king of Thessaly and one of the Argonauts. The king was ill, but was assured by the oracle that he would be delivered from death on condition that his father, mother or wife should voluntarily die for him. His wife readily consented to the sacrifice. Her story is beautiful as typifying the unselfishness of which the tender, womanly nature is sometimes capable, but has no higher meaning. Atya, of Phrygia, was a shepherd beloved by the goddess Cybele, who made him one of her priests on his taking a vow of celibacy. This vow he broke, and the goddess

punished him with madness, during which he mutilated himself and attempted to commit suicide. The goddess, however, restored him to his senses, and retained him in her service. Ball, of Orissa, was a minor divinity of the Buddhist religion. The three remaining of the "sixteen Saviors," Crite, of Cheldea; Chrishna—or more correctly Krishna—of India, and Mithra, of Persia, are the only ones of the list whose supposed histories have sufficient dignity to bear a slight resemblance to that of the Christian Savior. Of these, however, Crite hardly deserves mention, as there is very little evidence that his story was an ancient one. The two best authorities on ancient Chaldean history and beliefs, George Smith and Professor Rawlinson, make no mention whatever of either character or legend. Mr. Graves' only authority for the story is an author of the early part of the present century, who published a book called the "Anacalypsis," full of curious gleanings from all sources, authentic or not. The work is not regarded by scholars as of any real authority whatever. Krishna was one of the incarnations of the god Vishnu, a god of the Brahmanic theology. Certain writers have found a striking parallel between some points of his history and that of Christ. But other writers doubt whether these similarities are to be found in the ancient legends. They think that these were modern interpolations, and were directly modeled upon the story of Christ. Our readers will find in our Curiosity Shop Book for 1885 a brief outline of the life of Krishna, according to the most ancient legends. Mithra was the highest of the second class divinities of the ancient Persians. He was god of the day, and, in the higher sense, of light. He presided over the movements of the heavenly bodies. The meaning of his name was friend, and he was so called because he was believed to protect man in this life and in the next. He was regarded as a mediator between man and Ormuzd, the god of all good, and the defender of man against Abri-man, the evil one. Whether a legend concerning his incarnation was current long before the advent of Christianity cannot be asserted for lack of sufficient evidence. The friendliness that existed between the Persians and the Jews, of which we have abundant evidence in the books of Ezra, Nehemiah and Esther in the Bible, and also in profane history, renders it quite possible that the current expectation of a Messiah among the Hebrews, should have exercised some influence on the Persian faith. The religion of the Persians was not idolatrous at that time, that is, they made no images of their gods. In later years idolatry was introduced from surrounding nations, and temples were erected to "strange gods." The mediator, Mithra, was symbolized as a beautiful youth slaying a bull. Temples were erected to him and a system of complicated rites became known as Mithraism. Among these was sometimes the offering of human sacrifices. Mithraism was suppressed throughout the Roman empire in the latter part of the fourth century. Writers of the early centuries who defended the ancient religion of the Roman and Greeks against



what they called "modern heresies" classed Mithraism and Christianity together, but their points of likeness were but few. The story of Mithra's birth was that he was generated by the sun from the earth itself, and none of the legends pretend that he was ever crucified.

## INDIA.

Give a brief history of India, its customs and people; how is it ruled?

GREENLEAF, IOWA.  
CONSTANT READER.

*Answer.*—Little is known of the earliest period of the history of India, but it is thought that the Hindoos were not the first inhabitants of the country. They were an invading race which is supposed to have come from the northwest. They subdued and enslaved the aborigines, who are still represented by rude tribes in the central and southern parts of the country. The date of this invasion is not exactly known, but it probably occurred about 1500 B. C. The first event in the history of India of which we have an authentic account was the invasion by the Persians under King Darius, about 518-521 B. C. The Persian monarch conquered and annexed several provinces on the Indus, which were so rich, it is said, that their tribute furnished one-third of the revenues of the Persian crown. In 327 Alexander the Great invaded India, and penetrated as far as the Sutlej River. In the division of the Macedonian Empire after Alexander's death, Seleucus, one of his generals, obtained the eastern part, and founded the Bactrian kingdom, which included the Indian provinces, but Seleucus, in a war with the King of Maghada, relinquished all the territory east of the Indus. The kingdom of Maghada comprised the greater part of Northern and Central India, and is supposed to have lasted until about 190, B. C., after which India was broken up into a number of small kingdoms. Of the history of these little is known, and that little has been gleaned from inscriptions on coins, as the country had no relations with the outside world until A. D. 715, the date of the first Mahomedan invasion. Various similar invasions during the following centuries gradually extended Mahomedan rule over a great part of the country, and in the early part of the thirteenth century these provinces were separated from the Afghan empire and formed a separate Mahomedan kingdom, whose capital was the ancient city of Delhi. Here Mahomedan sovereigns reigned for about 300 years. In 1399 India was invaded by the conqueror Tamerlane, who slaughtered the inhabitants with shocking barbarity, proclaimed himself Emperor of India, but did not live long enough afterward to render his conquests permanent. In 1526 the Mahomedans were finally overthrown by the Moguls, led by a descendant of Tamerlane, whose family, with the exception of one brief intermission, held possession of the Mogul throne until nearly the middle of the eighteenth century. The three most noted of the Mogul emperors were Akbar (1556-1605), Jehanghir (1605-27), and Aurungzebe (1658-1707). During the reign of the last named emperor the foundation of a new empire, that of the Mahrattas, was laid in the Deccan, or Central

India. This grew quite powerful, and later threatened the existence of the Mogul Empire, but in 1761 was itself utterly overthrown by an invasion of the Afghans. The Mogul Empire had become so impoverished by a plundering invasion of the Persians under Nadir Shah, in 1739, that it was at this time entirely powerless. The most important power in India was now that of the English East India Company which, having been chartered in London in 1600, secured its first Indian trading post at Surat in 1613, and had steadily since, by means of trade, increased its wealth and its hold upon the people. The French also held posts for trade, and hostilities between the representatives of the two nations broke out in 1744. These gradually involved the native governments, but ended in the complete triumph of the British, and the cession to them of several important provinces. Subsequently, by conquest or by purchase, nearly all of India came under British control. The East India Company had the management of native affairs until the great Sepoy rebellion (for full account of that rebellion see *Our Curiosity Shop* book for 1886), when the home government assumed direct control. The chief executive authority of the Indian Government is the Governor General, who is appointed by the Crown, but who acts under the direction of the Secretary of State for India, a member of the British Cabinet, assisted by a council of fifteen persons, nine of whom must have had at least ten years' experience in India. The law-making power is with the Governor General, assisted by a council of six members. The administrative business is in the charge of six departments, each being in charge of a secretary. Each province is also in charge of a lieutenant governor. There are nine of these provinces. There are also quite a number of native states of various sizes, whose chiefs have control of local affairs, and pay tribute to the British Government. Among the people that live in India three native races are represented. In the northeast are the Mongols, in the south the Dravidians, or the descendants of the aboriginal tribes, and in the northwest and central part are the Hindoos proper. There are also a number of Europeans.

## THE GORDIAN KNOT.

What is a Gordian knot, and how was the term derived?

SEVERANCE, Kan.  
LOUIS FLANK.

*Answer.*—Gordius was a legendary King of Phrygia, Asia Minor. He was, the story goes, a peasant, and one day while plowing, an eagle alighted on his yoke of oxen and remained there until evening. To learn the meaning of the sign, he went to consult the sooth-sayers. A prophetess explained it as presaging that his family would rise to greatness and power, and he married her in return for her good wishes. Some years later, the country of Phrygia was greatly torn by civil dissensions, and an oracle declared that a new King, who would end all disturbances, would be brought in a peasant's cart. While the wise men were deliberating on these utterances, Gordius and his wife and son suddenly appeared in a cart, and he was hailed by the councillors as

the people's King. The new ruler consecrated the yoke of his team to Jupiter, and fastened the yoke to a beam with a rope of bark so ingeniously tied that no one could loosen it, and an oracle declared that whoever should untie this knot would become master of Asia. This knot was shown to Alexander the Great when he visited the acropolis at Gordium in Phrygia, and the words of the oracle were told to him. "Then," said the conqueror, "I will perform the task." And so saying, he cut the knot in two with his sword. The expression "Gordian knot" has from this legend come to mean any great difficulty, and the phrase, "to cut the Gordian knot," signifies to evade the difficulty, or by some prompt and decisive act to dispose of it.

#### ENGLISH MARRIAGE LAWS—UNIVERSITY FELLOWSHIPS.

GRISWOLD, Iowa.  
1. What are the laws of England concerning the marriage of relatives? 2. What is a fellowship at Oxford?  
F. K. SMITH.

*Answer.*—The prohibited degrees of relationship in the English marriage law are mainly identical with those of the Levitical law. The forbidden marriages—to classify them according to relative degrees—are those between persons in the ascending and descending line in infinitum, and those between those in collateral lines to the third degree, inclusive; this is according to the computation of the civil law, which reckons from one of the persons related to the common stock and so down to the other person. That is, a man may not marry his mother or his mother's sister, his grandmother or his grandmother's sister, and so on; nor, since these prohibitions extend to those related by marriage as well as by blood, can he marry the widow of his uncle or grand-uncle. A man may neither marry his sister nor his deceased wife's sister, for both are related to him in the second degree; nor his sister's daughter nor his deceased wife's sister's daughter, for both are in the third degree, but he may marry his first cousin, for she is in the fourth degree. The blood relations of either spouse are regarded as related by affinity to the other, but the blood relations of the one are not related to the blood relations of the other, wherefore two brothers may marry two sisters, and a father and son may marry a mother and a daughter. Though a wife's blood relations are connected to the husband within the prohibited degrees, the blood relations of the husband are not so nearly related to the wife, wherefore a woman may marry her deceased husband's brother, but a man may not wed his deceased wife's sister. Laws enacted in the reign of William IV. declared all marriages between persons within the prohibited degrees as absolutely null and void. Before that date they were only voidable, and might be set aside or legalized by the canonical authorities in church and state. 2. The history of the English university fellowships is given as follows: As early as the beginning of the fourteenth century, there were colleges endowed in the Universities of Oxford and Cambridge, for the support of the poorer students, by wealthy and benevolent persons. The persons receiving these endowments were called socii, or fellows. The assistance given was meant originally to last no longer than until the completion of the course of study, but as most of these young men belonged to the ecclesiastical order and had no other means of support, an understanding gradually arose that the aid granted by the college should be continued to the socius until he had obtained a benefice. These provisions gradually increased in number and importance, and by the fifteenth century fellowships were no longer endowed to assist students in going through their course of study, but as a permanent provision for poor young men of the clerical order who showed a taste for learned pursuits, and no one could hold them who had not taken the first degree of bachelor of arts or student in the civil law. In 1854 the fellowships were thrown open to all members of the university of requisite standing, as previous to this time many had been restricted to descendants of kinsmen of the founders, or to the inhabitants of certain dioceses or districts. The fellowships vary much in value, the older ones being much the more valuable. They are paid out of the college revenues and confer on their holders a certain sum in money, the privilege of occupying apartments in the college, and generally certain perquisites as to meals. Many fellowships are tenable for life, but in general they are forfeited should the holder attain to certain preferments in the church or at the bar, and sometimes in case of his succeeding to property over a certain amount. In general, also, they are forfeited by marriage, though a special vote of the college may permit a fellow to marry and retain his fellowship. This last restriction is a trace of the early monastic form of the university.

#### MAKING GUNPOWDER.

HASSAN, Minn.  
What is the formula and mode of making gunpowder? What is riant powder?  
A. W. DUGANNE.

*Answer.*—All gunpowder is made of niter or salt-peter, charcoal and sulphur, and in all nations by almost the same formula, that is, by using seventy-five pounds of niter, fifteen pounds of charcoal, and 10 pounds of sulphur for 100 pounds of gunpowder. The materials are first made as pure as possible, the niter being soaked in spring water, then boiled and cooled, then filtered through canvas bags and allowed to harden again. This is done until it becomes perfectly white. The sulphur is purified by being kept melted for several hours in gun metal pots. The charcoal is made from special woods burned in close vessels and must be thoroughly charred and soft. The three substances are first ground separately to a fine powder and then ground together with a little water until they are thoroughly mixed. The mixture is then, by a hydrostatic press, made into thin, smooth cakes that are afterward broken up between toothed rollers into grains and rubbed through sieves until the grains are the right size. These are then put in a revolving cylinder, and by rubbing against each other are worn round and smooth. This is called glazing, and is an important process.



because glazed powder keeps dry and bears shaking much better than unglazed powder. The powder is then thoroughly dried in rooms heated by steam pipes. Giant powder is the same as dynamite, and is made by mixing nitro-glycerine with infusorial earth.

#### POLITICAL AND RELIGIOUS LIBERTY IN GREAT BRITAIN.

NEW HAMPTON, IOWA.  
Give an outline of the political rights and religious liberties enjoyed by the inhabitants of Great Britain 100 years ago, as compared with to-day, and note the various steps of reform leading to the present condition.

*Answer.*—One hundred years ago the people of England had very little influence and no authority over their government. Though they had the name of popular representation in their parliament, the system was so utterly corrupt that no real representation of the people existed. Two-thirds of the House of Commons were appointed by peers or other influential persons, each nobleman having a number of seats at his disposal. No apportionment of representation had been made for many years, though important changes in the locality of the population had taken place, so that the number of members chosen bore no relation whatever to the representative needs of the people. For instance, Old Sarum, once a borough of some importance, but in the year 1800 without a single inhabitant, gave two members of Parliament the right to nominally represent that district, while the large cities of Leeds, Birmingham, and Manchester were wholly unrepresented. Three hundred members sat in Parliament as the representatives of districts that had an aggregate of only 160 voters. As a consequence of this inequitable distribution of political power, seats in Parliament were openly bought and sold, and in the case of many constituencies a regular market price had been established. In Scotland the political condition was even worse, the people being utterly excluded from any part in the representation. This state of things had been deplored by the more intelligent politicians of the country for some time, and William Pitt and others had endeavored to secure the adoption of reform measures by Parliament. When the French revolution began, and the States-general was assembled for the purpose of rectifying the abuses of government, the English people hailed the movement as the beginning of European regeneration. The hideous atrocities, however, perpetrated by the leaders of the French republic caused a revulsion of feeling, and when Napoleon tried to establish a military despotism over all Europe, Great Britain felt herself impelled to undertake the task of thwarting him in his purpose, and this task pressed so heavily upon her strength and resources that the question of domestic reform was quite thrown into the background. It may be said that the barbarities of the French revolution, and the tyranny of Napoleon, postponed political reform in Great Britain for more than forty years. After the "common enemy of Europe" had been overthrown, and the long exhausting war was brought to an end, there was a period of commercial

prostration, during which the sufferings of the people multiplied deeds of violence, and, as the feeling that these sufferings were largely due to misgovernment grew strong, reform measures could no longer be postponed. The struggle was not a brief one, however, having lasted nearly sixteen years. Then, in 1832, the reform bill, the greatest political fact of the century for Great Britain, became a law. By this law a great change was wrought in the character of Parliament, and it is noteworthy that the legislation which followed this bill differed widely in spirit and intention from that which preceded it, being no longer for the benefit of a class, but for the entire nation. The conditions of the franchise law of 1832, together with the changes that have since been made in the conditions of the franchise, may be found in Our Curiosity Shop book for 1885. The agitation for political reform also brought about an increase of religious liberties for the people. From the days of Charles II. to the year 1828 no man was allowed to hold a seat in Parliament, or any other office under government, until he had repudiated the doctrine of transubstantiation, and partaken of the sacrament according to the rites of the Church of England. This "test act" was aimed at Catholics, but fell with equal weight upon Protestant dissenters. It was abolished in 1828, but the words "on the true faith of a Christian" retained in the civil oath, continued until 1851 to debar Jews from office and from Parliament. In 1829 the bill removing the disabilities of Catholics in Ireland, which were even more stringent than those in England, were passed. Other important laws followed the inauguration of political reform. Slavery was abolished in 1833, laws regulating the employment of women and children in factories were passed in 1833, and again in 1843; in 1835 the first appropriation of money for national education was made; then followed the abolition of the tax on newspapers in 1836, the establishment of penny postage in 1839, and abolition of the corn laws in 1846. The civil disabilities of the Jews were not abolished until 1853, the compulsory levy of church rates not until 1868, and the sons of dissenters were not admitted into the universities until 1871.

#### NINETY-THIRD ILLINOIS INFANTRY.

COLLEGE SPRINGS, IOWA.  
Give history of the Ninety-third Illinois Infantry, giving its loss in the most important battles in which it engaged.

*Answer.*—The Ninety-third Illinois Infantry was organized at Chicago, and mustered in Oct. 13, 1862. Was first ordered to Memphis, and took part in General Grant's campaign in Northern Mississippi, and went into winter quarters at Ridgway, Tenn. In the following spring, took part in the Yazoo Pass expedition, and then joined the forces in movement against Vicksburg. At Jackson, Miss., it was under fire for the first time, losing seven men in killed and wounded. At Champion Hills was in the front of the battle and lost 162 officers and men in killed, wounded and missing. During the siege of Vicksburg the regiment took active part, and in the terrible

charge on the works, May 22, lost sixty-five in killed and wounded. After the capitulation it remained at or near Vicksburg until September, when it was sent into Tennessee and soon after joined the forces moving upon Chattanooga. At the battle of Mission Ridge the regiment lost eighty-nine officers and men in killed, wounded and missing; was stationed at Huntsville, Decatur, Kingston, and other points during the year following. Oct. 5, 1864, at the battle of Allatoona, the regiment had eighty-three officers and men among the killed, wounded, and missing. Went through with Sherman to the sea, went to Washington to take part in the grand review, and returned to Chicago, where it was finally discharged July 7, 1865.

#### PASSPORTS.

Tell something of the system of passports in Europe. How can an American obtain a passport?

FENTON, Mich.

READER.

*Answer.*—A passport is a document given by the authorized officer of a state, which gives permission to a person or persons named to pass or travel through the country. They must give the name, age, residence, and occupation of the holder, with a description of his person and appearance, which is meant to give the means of identifying him if necessary. It assures to the holder the support of his own government in any difficulty, and claims for him the protection of all governments at peace with his own. The passport system has also been kept up in Europe to give the authorities the means of detecting and tracking suspicious and troublesome characters. Passports are not used within the countries of England and the United States, nor are they required by these countries from visitors to their shores, except in the case of Chinese visiting the United States. The governments of this country and of England, however, give passports to those of their citizens who wish to travel abroad. The United States Secretary of State issues passports, and regulates their issue by the government's agent abroad. Persons giving a passport without authority to do so are liable to fine and imprisonment. Passports are also necessary to all vessels of the United States for foreign ports.

#### PRESERVING WOOD.

INDIAN GROVE, Mo.

Can Our Curiosity Shop give the process of preserving wood from decay?

M. SCHNAFF.

*Answer.*—There have been a number of processes patented for preserving wood. One of them, very generally used, consists in immersing the timber in a bath of corrosive sublimate. Another process consists in first filling the pores with a solution of chloride of calcium under pressure, and next forcing in a solution of sulphate of iron, by which an insoluble sulphate of lime is formed in the body of the wood, which is thus rendered nearly as hard as stone. Wood prepared in this way is now very largely used for railroad ties. Another process consists in impregnating the wood with a solution of chloride of zinc. Yet another way is to thoroughly impregnate the timber with oil of tar containing creosote and a crude solution of acetate of iron.

The process consists of putting the wood in a cylindrical vessel, connected with a powerful air-pump. The air is withdrawn, and the liquid subjected to pressure, so that as much of it as possible is forced into the pores of the wood. The processes above given not only season the timber so that it is not subject to dry rot, but also keep it from being injured by the weather, or being attacked by insects or worms.

#### THE BRODERICK-TERRY DUEL.

HARLEM, Iowa.

Give an account of the duel between Senator Broderick and Judge Terry. How were Douglas and Buchanan concerned in this?

F. A. JOHNSON.

*Answer.*—President Buchanan and Senator Douglas were in no way concerned in this, one of the most noted duels ever fought in this country, which was purely a personal matter between the two principals. But as Broderick and Terry belonged to opposed factions of the Democratic party, the latter leading the Lecompton wing in the agitation on the Kansas question, and the former, who was a warm personal friend of Douglas, being the soul of the anti-Lecompton wing—it naturally came about that the two men, who were then regarded as the leaders in the strife at Washington, were mentioned in connection with this quarrel, whose fatal termination convulsed the whole State of California. Both of the participants filled important positions in that young and growing State, Broderick as United States Senator, and Terry as Chief Justice of the State Supreme Court. As political opponents there was much bitterness between them, but the immediate cause of the quarrel was a speech made by Judge Terry at Sacramento in 1859, in which he called Broderick an arch traitor, and said that if he sailed under the flag of Douglas it was "the banner of the Black Douglas, whose name is Frederick, not Stephen." In the presence of the intense feeling that then existed on the subject of anti-slavery sentiment, such a remark could not but excite the most bitter rage on the part of the person of whom it was spoken. Broderick read it while at breakfast at his hotel. He immediately referred to the fact that when Terry had been under the ban of the Vigilance Committee in 1856, he (Broderick) had been his friend. He said: "I stood his friend when he was in need of friends, and also paid a newspaper for defending him while he was imprisoned, for which I am now sorry. I have also stated that I regarded him as the only honest man on the Supreme bench, but I take it all back." A friend of Judge Terry's present, a lawyer, resented this language and challenged Broderick to a duel for having used it, but Mr. Broderick declined the challenge with the contemptuous remark, "Sir, I fight only with gentlemen of my own position." The lawyer reported the words of Broderick to Terry, who thereupon wrote to the Senator concerning his language. Broderick repeated it without hesitation, and said that the Judge might decide whether it was a ground of offense or not. Then followed Terry's challenge, its acceptance, and the duel. The first meeting arranged was



broken up by the police; another was immediately planned at a point some ten or twelve miles from San Francisco. Here the opponents met at day-break Sept. 13, 1859, about eighty spectators, friends of the two gentlemen, being present. Broderick seemed very nervous and discharged his pistol before bringing it to a level, and the bullet buried itself in the ground, short of its mark. Terry fired, inflicting a fatal chest wound on his opponent. The injured man lingered, in great suffering, until Sept. 16, when he died. He said that he had been killed because he was opposed to the administration party, and this remark was taken up by the newspapers, and used to give the affair political effect. There was much feeling about the duel throughout the State, for Broderick was very popular with all ranks, and had many personal and political friends.

#### GRAND DUCHY OF LUXEMBURG.

ATLANTIC. IOWA.

Give a history of the Grand Duchy of Luxembourg, its present form of government, resources, etc.

JOHN KEITZES.

*Answer*—Luxemburg is now a detached dependency of the Netherlands, but ranks as an independent grand duchy. It is bounded on the north by Prussia and Belgium, and on the south by France and the German Reichsland of Alsace-Lorraine. The province was known as Lutzellburg during the middle ages, and was governed for a number of generations by German princes. It then became the possession of the Counts of Limburg, one of whom took the name Luxemburg. Several German emperors belonged to this house. One of these, Charles IV, made Luxemburg a duchy. Another, Wenceslas, gave the territory to his niece Elizabeth, who ceded it to Philip of Burgundy. It subsequently fell into the possession of Austria, and then of Spain. By the peace of Utrecht it was restored to Austria, and, in 1795, Napoleon conquered and took possession of it. In 1815 the Congress of Vienna made it a member of the German confederation as a grand duchy, and the King of the Netherlands was made its ruler. After the revolution of 1830, Luxemburg was divided between Belgium and Holland, the former retaining much the larger share of the territory, but in 1839 the division was made more equitably. The grand duchy of Luxemburg has an area of about 998 square miles and a population of 213,283, nearly all of them adherents to the Catholic faith, and all, except a few on the frontier, are Germans. The form of the government is a representative monarchy, the King of the Netherlands sharing the legislative functions with a diet of forty deputies, who are elected for a term of six years. One-half of the members are elected every third year and the chamber meets annually. The Grand Duke sends a prince of his family as a deputy to the assembly meetings and the general affairs of the province are under the direction of a secretary, who is one of the royal cabinet. Napoleon III. wanted to purchase Luxemburg from the King of the Netherlands and would no doubt have succeeded in doing so had not the powers interfered. By a conference in London in 1867

it was determined that Luxemburg should remain forever a neutral state. To insure this the fortress of Luxemburg, one of the strongest in Europe, was razed to the ground. The principal manufactures of Luxemburg are iron, leather, gloves, porcelain, and earthenware. The revenue is about £324,438.

#### THE MORGAN HORSE.

SUMPTER, MINN.

Give history and description of the Morgan horse.

I. COLTER.

*Answer*—Many persons deny that the Morgan horse is a distinct breed, yet his characteristics are so marked that they seem to entitle him to the credit of being so regarded. The founder of the family, or strain, was got by a horse called "True Britain," which was said to have been stolen from a British officer during the Revolution, and whose pedigree was therefore lost. This original Morgan horse was the property of Mr. Justin Morgan, a schoolmaster in Vermont, and for more than half a century the strain was kept pure, in that State. From this horse were descended, more or less remotely, "Black Hawk," "Ethan Allen," "American Eagle," and a number of other horses celebrated for their fine qualities and their fast trotting powers. The Morgan horse is usually strong, with great hardness of constitution, and long lived. He shows few evidences of fine breeding; his frame is corky, and not well put together; the head is not small but is well shaped, the face is straight, the forehead broad, the ears small, fine, and set far apart, the nostrils broad, the muzzle small, the eyes dark and prominent. The back is short, the loins broad, the body long, round, and closely ribbed up, the chest wide and deep, the legs somewhat short and very powerful, the feet small, the fetlocks rather long. The general adaptability of the Morgan horse, as well as its strength, renders it very valuable.

#### KOSSUTH AND THE KOSSUTH FUND.

FAIR HAVEN, VT.

What became of the fund collected in this country by Kossuth some five years ago? Was it ever used for the purpose for which it was given?

N. F. MAYNARD.

*Answer*—Kossuth was the leader of the Hungarian revolution of 1848, and when that proved a failure he was obliged to flee for his life. He sought refuge in Turkey, where he was seized and imprisoned, and he probably would have been given over to the Austrian authorities but for the intervention of England and the United States, which secured his liberty. Our government, in accordance with a resolution of the Senate, sent a war steamer to convey him to the United States as the Nation's guest. He arrived here in December, 1851, and was everywhere treated with the utmost distinction. He had high hopes of inducing the United States and England to jointly interfere in behalf of Hungarian liberty. He also desired to secure money and war material to aid the revolutionists. Our government, however, declined to give him any aid, and he was obliged to appeal for private contributions. He received some assistance in this way, though probably not a very large sum. Kossuth returned to Europe in July, 1852, going to Italy, as he

could not safely go back to Hungary. From there he aided a projected rising in Hungary in the spring of 1853, in behalf of which all the funds raised in the United States were expended, but it ended in a most ignominious failure. Kossuth now went to England to live. During the war of Austria with France and Italy in 1859, Kossuth went again to the continent, and made active preparation for a rising in Hungary, but the war was so soon ended that he accomplished nothing. In like manner, when the Austro-Prussian war broke out in 1866, his hopes of a Hungarian revolution were again roused, only to be in the same way frustrated by a speedy peace. Since that time Kossuth has remained in voluntary exile in London. Since 1867 Hungary has had her own Legislature, chosen by her people, and the wrongs which provoked the resolution of 1849 have been generally righted. Kossuth has been entirely free to return to his country, but not approving of the terms on which the Austro-Hungarian Empire was organized, he has preferred to remain abroad.

#### CHARLES DICKENS.

WALKERTON, Ind.  
Give a biographical sketch of Charles Dickens.  
B. A. BYERS.

*Answer.*—Charles Dickens was born near Portsmouth, Eng., Feb. 7, 1812. His father was a government clerk, who subsequently removed to London and became a Parliamentary reporter. Charles received a good education, and was placed as a clerk in an attorney's office, but not liking the routine of the law, he abandoned it for the work of a reporter. He began by taking down Parliamentary speeches, but soon found a more congenial field of labor in writing sketches of the varied phases of life in London. His first series of sketches, over the nom de plume of "Boz," were published in the *Morning Chronicle*. In 1838 the "Pickwick Papers" began to appear in the *Monthly Magazine*. The work fairly electrified the reading world of London and the young novelist leaped into fame. Before the story was completed Mr. Dickens had been offered the position of editor of *Bentley's Miscellany*, and had begun a new novel—"Oliver Twist"—in its columns. His next works were "Nicholas Nickleby," "The Old Curiosity Shop," and "Barnaby Rudge." Just after the completion of the last-named work, in 1843, Mr. Dickens made his first visit to America. After his return he wrote "American Notes" and "Martin Chuzzlewit." He also began about this time his annual Christmas story with the issue of "The Christmas Carol." He traveled on the continent during part of the years 1844-45, and on coming home joined with some friends in starting the *London Daily News*. He did not enjoy political writing, however, and gave up his connection with the *News* to found a new weekly periodical, *Household Words*. After some years, through some disagreement with the publishers, he resigned charge of this periodical and started another, *All the Year Round*, of which he was editor until the year of his death. For this magazine he wrote the sketches called "The Uncommercial

Traveler," and many of his best shorter tales. His later novels were "Dombey and Son" (1848), "David Copperfield" (1850), "Hard Times" (1854), "A Tale of Two Cities" (1860), "Great Expectations" (1861), "Our Mutual Friend" (1865). His last work was "The Mystery of Edwin Drood," which he began to issue in monthly numbers in 1869, but he died before its completion. During the later years of his life Mr. Dickens gained much profit by reading selections from his writings. He made a tour of the United States giving readings in 1867-68. He died suddenly, June 8, 1870, from apoplexy.

#### A FEW STATISTICS.

Omaha, Neb.  
What amount of paper money per capita was in circulation in the years 1870, 1875, 1880, and 1885? What was the balance of trade in the same years? The average price of wheat in Chicago? The total gold production and average business failures for the same years?  
R. P. MAIDEN.

*Answer.*—The statistics above called for can be best shown by means of the following table:

	1870.	1875.
Paper circulation per capita.....	\$18.16	\$17.55
Excess of merchandise imports.....	\$48,186,640.00	\$19,563,725.00
Excess of specie exports.....	\$31,736,486.00	\$71,231,425.00
Av. price of wheat in Chicago.....	97½	98½
Total gold production of the world.....	\$127,538,600.00	\$119,432,300.00
Av. business failures.....	3.551	7.740

	1880.	1885.
Paper circulation per capita.....	\$14.46	\$14.39
Excess of merchandise exports.....	167,683,912.00	\$164,662,426.00
Excess of specie imports.....	\$76,891,391.00	\$1,010,798.00
Av. price of wheat in Chicago.....	1.05½	.82½
Total gold production of the world.....	\$106,436,786.00	\$95,292,570.00
Av. business failures.....	4.735	10.637

#### THE CAVE OF MACHPELAH.

SAN LUCAS, Cal.  
Is the Cave of Machpelah, where Abraham and his wife Sarah were buried, now known with certainty, and what is its present appearance? Is it open to visitors?  
S. E. MORSE.

*Answer.*—The cave of Machpelah, which was situated on the western slope of a hill in Hebron, is one of the Bible sites that are positively known. A large structure called "El Haram," or "The Sacred Inclosure," surrounds the ancient cave. It stands high up the slope on the eastern side of the valley. The outer wall is 194 feet long, 109 feet wide, and from 48 to 58 feet high. The stones are of enormous size, some of them 30 to 38 feet in length and 4 feet thick, and they are dressed and fitted with great care. It is not certainly known when this wall was built, but it is generally believed by scholars that it was erected by the Jews, probably about the time of David or Solomon. Within the inclosure of the wall is a building, which is supposed to have been built for a Christian church in the time of the Emperor Justinian, but it is now used as a Mohammedan mosque, as all this country is now under Mohammedan rule. Visitors are rigidly excluded from this building, but the Sultan of Turkey has given special permission to certain members of the royal families of Europe to enter. The Prince of Wales was admitted in 1862, and was accom-



panied by Dean Stanley, who published a full description of the visit. In separate apartments of the mosque the visitors were shown tombs or cenotaphs purporting to be those of Abraham, Isaac, Jacob, Sarah, Rebekah, and Leah. These tombs were of stone, and overhung with cloth embroidered with gold and silver. Joseph's tomb was in a structure on the west side of the Haram. Between the tombs of Isaac and Rebekah was a circular opening into a cavern below, which is supposed to be the real cave of Machpelah, but into this cavern no one was allowed to enter. The Moslems declare that no one has gone into this cave for 600 years, and they believe that any one attempting to go into it will be instantly struck dead. It is thought to be quite possible that the embalmed body of Jacob may be found in the cave, and explorers have desired to enter it, but the superstitions of the Mohammedans prevents this.

#### NINETY-SEVENTH ILLINOIS INFANTRY.

WOODLAND, MO.

Give brief history of the Ninety-seventh Illinois Infantry.

A. MCCOLLUM.

*Answer.*—This regiment was organized at Camp Butler and mustered in September 16, 1862. In October it was sent southward to be attached to the Army of the Tennessee. In December the regiment was sent down the Mississippi with the expedition to Chickasaw Bluffs, and shared in the honor of taking Arkansas Post. In March the regiment joined General Grant's command, then preparing for the expedition against Vicksburg. It was in the engagements of Port Gibson, Champion Hills, Black River Bridge and also participated in the charges upon the works before Vicksburg. During the siege the Ninety-seventh was under fire for forty-five consecutive days. After the surrender it took part in General Sherman's attack upon Jackson. In August the regiment was ordered to New Orleans, was sent on to New Iberia, but later on was recalled to New Orleans for provost duty. While going thither its train was wrecked by a collision, and eighteen of the regiment were killed and sixty-seven wounded. The regiment had now barely four hundred men fit for duty, and was kept in garrison at New Orleans until recruiting officers had brought it to a full muster again. It then took part in the Mobile campaign, and was foremost in the charge that captured Fort Blakely. In May the regiment was sent to Galveston, where it was mustered out July 29, 1865.

#### THE HUGUENOTS.

WAVERLY, Neb.

What was the condition of the Huguenots during the French Revolution, and what position did they then assume? What is the present religious condition of France?

S. M. CLARK.

*Answer.*—The direct effect of the revocation of the Edict of Nantes in 1685 was to drive nearly the entire Huguenot population out of France. (For history of this edict, and its revocation, see Our Curiosity Shop book for 1885.) From this time for many years the cause of religious freedom was completely broken in France. For a few years the mountaineers of the Cevennes waged war with the royal troops in defense of Protestant principles, but they were soon over-

come, and in 1715 there was not an organized Huguenot congregation left in all France. Subsequently, however, the scattered remnants of the people were gathered together, and the church was reorganized through the indefatigable efforts of Antoine Court, the "apostle of the desert." Though repressive edicts against them were again issued during the reign of Louis XV. they continued to increase, and about the middle of the century they had powerful advocates in men like Montesquieu and Voltaire. In 1787, under the influence of Necker, Louis XVI. signed an edict which restored partially their civil status to the Huguenots, after 102 years' deprivation. The French Revolution carried justice a stage further and restored complete rights to all non-Catholics in France. We do not find that the Huguenots, as such, took direct part in the French Revolution. They lived mostly as of old in the mountainous districts of the south, to which the frightful political convulsions which had their origin in Paris scarcely extended. The sect had lost the name Huguenots long before the close of the last century. They are now known as Calvinists, and there are about 500,000 of them in France, by far the larger proportion of the number living in the southern mountains. There is complete religious toleration now in France, and the Calvinists form a body of respected and honored citizens, most of them being warm supporters of the Republic.

#### THE ORIGIN OF COAL.

SIOUX FALLS, D. T.

Give the theories of scientists as to the origin of coal.

R. ROSEB.

*Answer.*—Scientists tell us that there was a time in the history of the earth when there was a hot climate all over its surface, even in the arctic regions. The theory is that at this time the same kind of plants grew all over the globe. There were then no animals on the land, and only mollusks in the sea. The plants were principally fungi and lichens of enormous size, gigantic ferns and cone-bearing trees, and there were no flowers and no fruits fit for eating. For thousands of years these great forests of plants grew up and died, and other plants grew in their place until all the low lands became filled with beds of vegetable matter. The crust of the earth not being very strong at this time, parts of it would sometimes sink so as to be under water. Then the vegetable matter would partly rot and become packed so closely that it would turn into peat. In the lapse of years heat and pressure would cause a second change and the peat turned into a brown coal called lignite. Yet another change would turn this lignite into real coal. Thus coal is supposed to be made up of the remains of trees and plants, which have become converted, by pressure and heat, into carbon, the pure fuel substance, and bitumen, a tarry stuff evolved by vegetable decay. The kind of coal depends upon the amount of bitumen in it. It is commonly divided into three classes—anthracite coal, the hardest kind, which has been so long in formation that the bitumen has generally dried up and evaporated from it; bituminous coal, which has much more

bitumen in it, and cannel coal, which has the most of all. The anthracite is harder and closer grained than other coal, because more heat and pressure has gone toward its formation than was needed to make the other kinds of coal. A still greater degree of heat and more pressure would have brought another change of the coal and made it black lead.

#### THE ACHROMATIC LENS.

Describe the achromatic lens. By whom was it invented and when first used?  
ROBERT, Wis.  
WARREN COOK.

*Answer.*—The achromatic lens is so called because it transmits light without dividing it into colors. The white ray of light is made up of a number of colored rays, which have different degrees of refrangibility. When the direct ray is refracted, it divides itself into the colored rays, which deviate in various degrees from the straight line of the simple ray, and do not all focus at the same point, thus surrounding the object viewed with a halo of various colors. It was for many years thought that this defect could not be remedied, but the necessary improvement was invented about 1750 by John Dolland. He made a double lens, of flint and crown glass. These two kinds of glass differ as to their power of dispersing colors, so by using a convex lens of crown glass, with a concave one of flint glass, a perfectly colorless image was obtained.

#### NATIONAL CONVENTIONS.

1. We are told that the members of the National Convention are one for every Representative and Senator the States may be entitled to in Congress. In that event, why did not the "Famous 306" give Grant the nomination in 1880?  
ELYTHEDALE, Mo.  
R. C.

2. What is the largest ship ever constructed?  
Please give size, etc.

*Answer.*—1. In the National Republican Convention each State has double the number of delegates that it has Senators and Representatives in Congress. That is, each State has four delegates at large, and two delegates from each Congressional District. 2. The largest vessel ever built was the Great Eastern. This was a steamship, built at Milwall, near London, England, in 1856-7. She was 692 feet long, and eighty-three feet broad, weighed 12,000 tons, and was capable of carrying 5,000 persons.

#### EGYPTIAN CHRONOLOGY.

In a recent interesting item on the subject of Egyptian history, you said that the Kings of that country are traced back to 5004 B.C. Please tell us how the dates of events so remote are ascertained. What did the ancients date from and how can modern savans fix any event so far back in the world's history?  
NORFOLK, NEB.

*Answer.*—It is not claimed that the times of the early Egyptian Kings can be fixed with absolute accuracy. There are three authorities on ancient Egyptian history, which are: 1, the Egyptian historian Manetho, who lived about 300 B. C. in the reign of Ptolemy Soter; 2, a papyrus list found in one of the ancient tombs, and 3, inscriptions on various monuments. Manetho gave a list of thirty dynasties and the length of each, with in some cases the duration of the individual reigns. His method of reckoning is believed to have been faulty, but by comparison with the papyrus lists and the inscriptions, it is confirmed in most important respects, and

many of its errors have been eliminated. Still, there remain enough discrepancies to cause the leading Egyptologists to differ widely in their chronology. M. Mariette accepts Manetho's numbers with a few slight modifications, and places the beginning of the first dynasty at 5004 B. C. Dr. Brugsch calculates that some of the reigns overlapped others, and puts the beginning of history at 4400 B. C. Of course a few hundred years in a period so remote might be set aside without materially effecting the general truth of history. The Egyptians used no era to date from. They always dated by the year of the reigning sovereign. The year began with the rising of the Nile, early in July.

#### JACKSON AND THE UNITED STATES BANK.

Give a history of the United States Bank that was closed during Jackson's term. How was it established, and how and why was it closed?  
BENNETT, Ill.  
G. W. THOMPSON.

State amount of funds removed from the United States Bank to sub-treasuries, the disposition of the same, and the relation of these facts to the panic of 1857?  
CHICAGO, Ill.  
GEORGE McLAUGHLIN.

*Answer.*—The first United States bank was established by Alexander Hamilton, and went out of existence through the expiration of its charter, in 1811. Jefferson had been a strong opponent of the bank, on the ground that the Constitution did not give the Federal Government the power to establish such an institution, and many persons opposed its continuance for this reason. During the war of 1812, the government was supported partly by the issue of treasury notes, but principally by loans from State banks. The anti-war party was so strong that often these loans could only be secured at an exorbitant rate of interest. The war largely increased the public debt, and this, together with the falling off of the revenue because of the interruption of the import trade, brought the government into serious embarrassment. Alexander J. Dallas was appointed Secretary of the Treasury in October, 1814, in the hope that he might relieve the situation, and his first recommendation to Congress was for the establishment of a National bank. Several bills for the bank were discussed in Congress, meeting with more or less opposition, and at last one became a law in 1816. This provided for a charter to run twenty years, the capital of the bank to be \$35,000,000, one-fifth in cash, the rest in United States 6 per cent stocks and the bank to have the custody of public funds. The stock was at once subscribed, and the bank was opened at Philadelphia, with branches in other cities. Unfortunately, the bank was officered for political considerations, and bad management and fraud brought it in three years to the verge of bankruptcy. Though the efforts of new officers saved the credit of the bank and soon placed it on a sound financial basis, much prejudice had been aroused against it. But the bank question had no direct part in politics until President Jackson began to assail it. He did this in his first message in December, 1829, and in his messages of the following years renewed his expressions of hostility. Congress, however, did not agree with him, and the bill to recharter the bank was passed by both houses in the summer of 1832. This bill President



Jackson vetoed in a very decisive message, in which the bank was declared to be an unnecessary, useless, expensive, un-American monopoly, always hostile to the interests of the people, and possibly dangerous to the government. An attempt to pass the bill over the President's veto was a failure; but the President's suggestion, in his next message, that an investigation be made into the condition of the bank's assets, met only with strong opposition. According to the law creating the bank, it was to receive the public funds, "unless the Secretary of the Treasury shall at any time otherwise order and direct." The question, therefore, of the need of removing the public money from the bank, rested with the Secretary of the Treasury, and it was soon evident that the President, in order to satisfy his animosity toward the bank, had determined to force the Secretary of the Treasury to remove the deposits or resign his office. March 2, 1833, by the strong majority of 109 to 46, the House resolved that the deposits might be safely continued in the bank. On the following day Congress adjourned, and the President was left master of the field until the following December. Jackson had previously decided on the removal of McLane from the Treasury, as that gentleman was favorably inclined toward the bank. June 1, McLane was put in charge of the State Department, and William J. Duane became Secretary of the Treasury. During his first day in office the new Secretary was unofficially informed that the President had decided to remove the Federal deposits from the bank. To this course Duane objected, arguing that he could not take the responsibility for such action, unless it was first approved by Congress. To this the President replied that he himself "would assume the responsibility." Later Mr. Duane partially consented to concur with the President, but when, October 1, Jackson announced to his Cabinet—who, in spite of his vehement arguments at frequent meetings, could not be brought to accord with his views—that he had ordered the removal of the funds and would assume the entire responsibility for it, the Secretary of the Treasury decided to have no share in the arbitrary action. Not believing that he was justified in resigning, simply to make room for a secretary who would fulfill the President's wishes, he asked Mr. Jackson "to favor him with a written declaration of desire that he should leave office," which, after considerable expostulation, the President did. The same day Roger B. Taney, the Attorney General, was made Secretary of the Treasury, and three days later he gave the order as the President desired. We cannot assert the amount of the deposits removed to the State banks—not sub-treasuries, as the latter were not established until later—as even good authorities differ on this point. Henry V. Poor, in his valuable work, "Money, Its Laws and History," asserts that \$10,000,000 was ordered removed. But Professor Alexander Johnston, who is generally regarded as one of the soundest living authorities on United States history, says: "There was in reality no removal. The order directed government collecting officers to deposit their moneys in certain State banks named in the order.

The deposits already made in the bank were left there to be drawn upon, and fifteen months afterward nearly \$4,000,000 were still there on deposit." The relation of the above facts to the panic of 1837 can be readily perceived. One bank in each State was made the custodian of the public funds for the State. This sudden and enormous increase of their deposits, of course, stimulated the "pet banks," as they were known, to undertake operations far beyond the limits of their legitimate capital. While the United States bank was in existence its issues formed the most important part of the currency of the country, for gold and silver currency had been for years unknown. The stringency of the money market caused by the suspension of this bank was a direct stimulus toward the incorporation of small banks throughout the States for the issue of a circulating medium. Add to this the fact that important economic changes were then taking place, consequent upon the introduction of railways and steam navigation and the opening of the great West to immigration. The number of immigrants reached 275,099 in the years 1831-7, as against 79,741, for the seven years previous, and the sales of public lands had increased from \$2,329,356.14 in 1830, to \$24,877,179.86 in 1836. July 11, 1836, the Secretary of the Treasury issued the specie circular, ordering government agents to receive only gold and silver in payment for public lands. This checked the stream of paper money flowing westward, and turned it back toward its source. The banks, unable to redeem the notes that they had issued so largely, suspended specie payments in May, 1837. The result was, of course, panic and failure everywhere. For fuller statement of the speculation that preceded this panic, and account of the wild-cat banks that figured so largely in this speculation, see *Our Curiosity Shop* book for 1885.

## LILITH.

ALPENA, Wash.

Give the legend of Adam's first wife, Lilith. E. J.

*Answer.*—The Talmud says that Adam had a wife before Eve, by whom he became the father of demons. Refusing to submit to the authority of her husband, she left Paradise for a region of the air. She still haunts the air as a specter, wearing the guise of a beautiful woman in gorgeous attire, and lies in wait for and kills children. Her especial desire is to gain access to a new-born babe and throttle it. The superstition that a child must wear an amulet to be safe from Lilith's evil intentions still exists among the ignorant Jews. It is said that our word lullaby is a corruption of the words "Lilla, abi," or, "Begone, Lilith." Lillis, or Lilith, also became a legendary witch of the middle ages.

## SEA LIONS.

ALDEN, Iowa.

Where are sea lions found, and are they taken and used for any purpose? Describe them. L. H. N.

*Answer.*—The name of sea lion has been given to a number of large seals of both hemispheres, either from their savage appearance, roaring voice, powerful canines, or maned neck. The northern sea lion is found on the east shores of Kamtschatka, around the Kurile islands and down the west coast of North America on rugged shores and desert rocks

of the ocean, nearly to latitude 40 degrees. It is about fifteen feet long, and weighs some 1,600 pounds. The males have stiff, curled hair on the neck, a thick hide, large head, bushy eyebrows, long nose, and are covered with coarse hair of a tawny color. They live upon fish and smaller marine animals. The sea lion is invaluable to the natives of the northwest coasts of America, though they are not accounted of much value in the commercial world. But the Indians use their skins for covering boats, and for making long boots for protecting the limbs, they make water-proof garments by sewing together their intestines, and convert their stomach-walls into oil pouches, dry their flesh for food, and sell their mustache bristles to the Chinese, who use them as pickers for their opium pipes. The sea lions are far less numerous than the fur seals, and as they are not protected from indiscriminate slaughter by law, the species is becoming greatly reduced in numbers. Two specimens of this animal were brought to Lincoln Park, Chicago, some years ago.

#### CANARY BIRDS.

BLANDINSVILLE, ILL.

Tell something about the different kinds of canary birds.  
J. G. HOFFMAN.

*Answer.*—The canary bird belongs to the finch family. It is a native of the Canary Islands. There are two species—the native and the domesticated. The native birds are ashy brown on the back, with greenish yellow feathers on the throat, shading to golden yellow on the breast, the sides are a dingy white, the wing feathers brown black, with pale brown edges. The female is of a more dingy and dull-colored plumage than the male. The domesticated bird is larger, with entire plumage of a rich, yellow color. The two species were originally one, the difference having been the result of changed surroundings and uniting with other species of finches. The original canary stock was imported from the Canary Islands to Europe about the fourteenth century. Crossing has given rise to about fifty varieties of the domesticated bird. Some of them are of very beautiful plumage, and remarkable powers of song. It is said, however, that the sweetest singers among the domestic varieties are surpassed by the clear notes and rich melody which the native birds can produce.

#### HOW SPOOLS ARE MADE.

KINGSLEY, Fla.

Tell how spools for thread are made.

A READER.

*Answer.*—Spools are easily made in large quantities by mean of a bobbin lathe worked by machinery. A boy seeds it by dropping the blocks into a box or hopper, and the machine turns them and drops them out one by one, entirely finished, at the other end. This machine can make 1,500 spools an hour.

#### SPIRITUALISTIC PENCIL WRITING.

NEWTON, ILL.

Has Slade's pencil writing ever been satisfactorily explained?  
R. J.

*Answer.*—Any one who has watched the performance of Dr. Slade, with a clear head and an intelligent determination to ascertain the natural means by which it is performed, must be convinced that there is nothing more than juggling in it. But probably the best explanation ever made of it can

be found in the recent report of the Seybert commission, a committee composed of ten well known physicians and scientific men of Philadelphia, who, in accordance with the desire of the late Henry Seybert, of that city, have recently been investigating the phenomena of modern spiritualism. They had a number of sittings with Dr. Slade, and announced as their conviction that the entire performance was fraudulent. They note, after observing one sitting, that "there are two classes of messages received, one general in its character, legibly, even carefully written, and usually covering more than half of one side of the slate. The other, written in reply to a question addressed to the spirit, is brief, usually vague in meaning, and scrawled so as to be scarcely legible. The natural conclusion is that the long messages are prepared by the medium beforehand; and that the others are written by him under the table with what skill practice can confer." In the first case, a slate with a message written upon it, is lying on the table face downward. The medium sits about the table with his visitors, and makes them put all their hands together on the table. On these he places one of his own hands, to establish a magnetic current, he says; in reality to keep them from touching the slate. He then places a small pencil upon the slate, and in his other hand holds it under the table. After waiting some minutes, in which no communication comes, the medium picks up another slate, ostentatiously rubs off both sides of it, puts the pencil on it, and then places the first slate upon it, still keeping the prepared message out of view. The medium then holds the two slates under the table for a time, meanwhile gently scratching with his finger-nail on the slate-frame, to simulate the sound of writing. Then the slates are laid upon the table, separated, and the written message is disclosed. Sometimes the sitters take a perfectly clean slate, write a question on one side, then place it on the table with the question downward, and the small bit of pencil on top of the slate. The task now before the medium is to read the question, get the pencil between his fingers, and write the answer. The steps in this process are easily seen by watching the medium's motions. He holds the slate under the table, pulling it out every minute or so, to see whether the spirits have given a communication. This maneuver accustoms the sitters to frequent movement of the arm holding the slate, and also enables the medium to get the pencil between his forefinger and thumb. When the pencil is grasped, there are several spasmodic movements of the slate, during which it is turned over and the question read. Then the slate is turned again with convulsive movements, and the medium, propping the slate between his knees, writes an answer upon it. As this must be done without looking at it, the sprawling character of the communication is not to be wondered at. Three members of the commission, after having seen Dr. Slade's performance several times, witnessed the slate trick of a professional juggler, who made no pretense of spiritual agency. "In broad daylight, a slate perfectly clean on both sides was, with a small fragment of slate pencil, held under a leaf of a small table around which the gentlemen were seated: the



fingers of the juggler's right hand pressed the slate tight against the underside of the leaf while the thumb completed the pressure, and remained in full view above claspings the leaf of the table. Our eyes never for a fraction of a second lost sight of that thumb; it never moved; and yet in a few moments the slate was produced, covered on both sides with writing. Messages were there written in French, Spanish, Dutch, Chinese, Japanese, Gujerati, and ending with "Ich bin ein Geist, und liebe mein Lagerbier." The juggler subsequently showed plainly how he performed the trick by mere sleight-of-hand.

#### THE UMBRELLA.

JACKSON, Mich.  
Give a sketch of the invention of the umbrella.  
When was it first used in England? A. C. TIMPSON.

*Answer*—The use of the umbrella belongs by no means to modern times. It is found sculptured on the ruins of Nineveh and on the monuments of Egypt. Its use in China and India is also very ancient. In Greece it had a part in certain religious ceremonies. There is no doubt from the paintings on ancient Greek vases that umbrellas very like those in use at the present time were known many years before the Christian era; they were also used among the Romans, but only by women. In many countries the umbrella seems to have been a part of an insignia of royalty, and its use only permitted to kings and great nobles. This is still the case in parts of Asia and Africa. Also, in some of the churches of Rome a large umbrella was suspended, which was carried over the cardinal's head in solemn processions. In Southern Europe the umbrella was used as a shade from the sun only. It is not known when the use began in England, as representations of such articles are found in very old MSS. But their use was confined to women, and it was considered a mark of effeminacy for a man to use one. An English dictionary published in 1708 defines an umbrella as "a screen commonly used by women to keep off rain." Jonas Hanway is said to have been the first man to carry an umbrella through the streets of London in rainy weather, about 1750, and he was hooted at by small boys, and jeered at for his fear of a wetting. Even after the introduction of umbrellas into this country, in the latter part of the eighteenth century, it was thought very effeminate to carry one. The manufacture of umbrellas here was begun about 1800, and has since grown to be a very important industry, its product rivaling the best manufactures of foreign countries in this line.

#### LAWRENCE BARRETT.

MOLINE, Ill.  
Give a sketch of the life of Lawrence Barrett, the tragedian. M. D. D.

*Answer*—Lawrence Barrett was born at Paterson, N. J., April 4, 1833. He went with his parents to Detroit, Mich., where he was put into a dry goods store, but was soon drawn aside from business by his strong dramatic taste. His first appearance on the stage was at Detroit as Murad in "The French Spy," in 1853. He played small parts there for a year, then was attached to a Pittsburg theater for a short time, and then started on a two-years' tour through the West with a company of actors. He went to New York in 1856, played there

for several years, then went to Philadelphia, next to Washington, and finally went to New Orleans, where he was offered an interest in a theater. He performed there with much success, taking for the first time some of the great parts with which his name has since been associated. Mr. Barrett seemed at this time to awaken to a knowledge of his own remarkable talents, and he therefore began a course of earnest study of his profession. He began his career as a star in 1864, in Cincinnati, in the play of "Rosedale." He visited England in 1867. In 1868 he went to San Francisco. He and Mr. McCullough were then associated in the management of a large theater there. Barrett began starring again in 1870. He has ever since that time steadily increased in popularity and is now regarded as one of the most gifted, scholarly actors in the country.

#### THE SEAL FISHERIES QUESTION.

CHICAGO.  
Tell something about the extent of the Alaskan seal-fishing grounds, and also how far from the coast the British vessels were that were seized for invading American waters some months ago.

R. NEWTON.

*Answer*—As far back as 1799, Russia claimed and exercised, through the Russian-American Company, full control of all the sealing grounds on the coasts of Kamtchatka and Alaska, extending the same as far south as the seals were to be found. Baranov, the Russian Governor, even established a post on the coast of California, then Spanish-American territory. In 1842 this post was given up, and the extent of the company's "grounds" became more circumscribed. It was the insolvency of this company in 1867 that led to the negotiated sale of Alaska to the United States, and this country became the purchaser of all the right and sovereignty actually possessed by the Russians in Alaska and the Alaskan seas. This sovereignty, it was claimed, extended to Behring Island, more than nine hundred miles west from the extremity of Alaska. In 1868 Congress passed an act extending over Alaska the United States customs laws, and forbidding the killing of seals except by license of the Treasury Department, within the limits of the territory or in the waters thereof. Any person found guilty of violation of this act was to be fined or imprisoned, or both, and all vessels so engaged were to be forfeited. It was under this law that the British vessels were seized, though they were more than three hundred miles from the Alaskan coast. They were subsequently released. However, the State Department held that their seizure was not altogether unjustifiable, as the right of Russia to those waters and our country's acquired right by purchase had been previously conceded by the British. About 1870 the Alaska Commercial Company secured from the government the lease of the islands of St. George and St. Paul for a yearly payment of \$60,000, together with the right to kill seals, subject to a tax of \$2 each. Only young male seals were to be killed, and these only at certain seasons, and not more than 100,000 of them in any one year. Further, killing by firearms or other means likely to alarm or drive away the seals, was wholly prohibited in the breeding grounds. The seals gather in large numbers on the shores of these islands and the intent and effect of

this law was to confine the yearly slaughter to the young males driven away from the colonies by their older rivals. In this way the seal, which is a very timid animal, would not be frightened away from its accustomed abode, and the yearly supply would not be diminished. About 95,000 have been taken every year, and the United States has received from the Alaska Commercial Company alone, a very fair percentage on its investment of \$7,200,000 in the purchase of Alaska. There is much objection among the people living on the northwest coast to this monopoly of the seal business, but it is claimed, and probably with truth, that were the seal fisheries opened to every one no pains would be taken to keep up the supply, and this valuable animal would soon be extinct, through wanton destruction.

#### EMPIRES AND KINGDOMS—KINGS AND QUEENS.

LOGAN, IOWA.  
What is an empire and how does it differ, if at all, from a kingdom? How do the King and Queen both rule at the same time? F. P.

*Answer.*—An empire is the dominion of an emperor, that is, the territory or country over which he rules. It is usually asserted that there is now no clearly marked distinction between an emperor and a king, but if the primary meaning of the words is taken into consideration, there is a difference. Further, even now, the common understanding of words regards an empire as of greater extent than a kingdom, and also as comprising a variety in the nationality of its subjects, and different forms of administration in its constituent parts. The word empire comes from the Latin *imperium*, which always conveyed the signification of absolute power in its possessor. The "*imperium*" of a ruler, whether he was king or consul, was the power he possessed of bringing physical force into operation to carry out his behests. One who possessed the *imperium* was called the "imperator," from which the word emperor was derived. There were many imperatores among the Romans, possessed of powers more or less limited in extent: the title followed the name, implying simply that its owner was an emperor, or ruler; Julius Caesar was the first to put it before his name, implying that he was the emperor, that is, the ruler above all others. The title was subsequently used for the possessor of the sovereignty of the Roman world, and thence passed to Charlemagne, the founder of the German empire. The word king is from the Saxon, and seems to have come originally from a Sanscrit root meaning father. This is in accordance with the fact that all government can be traced to the rule of the patriarch in primitive times, the head of the family, the husband and father. The king was the father of his people, so to speak, and, therefore, the person vested with supreme power in the state. In modern times the checks that have been placed upon the king's power are many, but an emperor is still understood to possess in a great degree an absolute sovereignty. The only empires now existing are those of Austria, Germany, Russia, Turkey, China, and Japan—all but the two first named being pure despotisms. The Queen of England bears the title of Empress of India, but this is a mere title, and confers no imperial powers. 2. It seldom happens that a

king and queen are joint sovereigns. Strictly speaking, the wife of the lawful king-regnant—that is, the one who has succeeded to his throne—is his subject, and the husband of a queen-regnant is the subject of his wife. Certain privileges are usually accorded to a queen, these differing in different countries. In England, the queen can make a grant to her husband and receive one from him; she can sue and be sued alone, and purchase land without the king's concurrence. William and Mary of England were joint sovereigns, the only two that ever sat upon the English throne. In all acts of the government the name of Mary was inserted, but according to the terms of the convention which settled the crown upon the pair, the sole administration of affairs was to rest with William. As Mary was of an easy, unambitious temper, she never interfered with her husband's desire to wield the full and undivided authority of the crown. Ferdinand and Isabella of Spain were joint sovereigns. Their marriage, by uniting the royal houses of Castile and Arragon, made Spain one kingdom. But Isabella retained the rule in Castile independent of her husband, and on her death, Ferdinand only succeeded to the regency of that division of the country. Spain did not become in fact an undivided kingdom, until Ferdinand's death handed all his own and Isabella's territory and authority over to their grandson—Charles I.

#### OUR FINANCIAL LEGISLATION.

SPOTTSVILLE, KY.  
1. Please give in consecutive order, beginning with the first, the dates of all the acts of Congress authorizing the issue of legal tender paper currency, and amounts authorized by each act. 2. Please state in like manner the acts authorizing the destruction of said currency. J. D. LANGLEY.

*Answer.*—The demand-note issue of July 17, 1861, was the first attempt to use the government notes as currency. These were redeemable at sight in coin, and were used in the payment of salaries due employes in the department. The act of Feb. 25, 1862, authorized the issue of \$150,000,000 in legal tender United States notes, \$50,000,000 of which were to take up the issue of demand notes. July 11, 1862, an additional issue of \$150,000,000 in legal tender notes was authorized by Congress, \$35,000,000 of this to be in sums of less than \$5. July 17, 1862, an act authorized the issue of notes of the fractional part of one dollar receivable in payment of all dues, except customs, less than \$5, and exchangeable for United States notes in sums not less than \$5. The amount of this issue was not specified, and we are not able to learn from any publication on the subject, exactly how much was issued under this act. Jan. 17, 1863, a resolution authorized the issue of \$100,000,000 in United States notes for the immediate payment of the army and the navy. The amount of this issue was subsequently included in the act following, March 3, 1863, which authorized an issue of legal-tender United States notes, in all respects similar to those already issued, to the amount of \$150,000,000. Also an amount, not to exceed \$400,000,000, of Treasury notes payable at any time within three years, bearing interest not to exceed 6 per cent, and issued in denominations of not less than \$10, which should be a legal tender for their face value, in the same way that the United States notes were.



Under the authority of this latter clause, there were issued of one-year notes, bearing interest at 5 per cent, \$44,520,000, and of two-year notes, bearing interest at 6 per cent, \$166,480,000. Authority was given on the same day for the issue of enough fractional currency to bring the amount of circulation up to \$50,000,000. Authority having been given by law to reissue indefinitely any of the United States notes, no care has been taken in re-issuing them to maintain any distinction in the character of the notes issued, and no one can tell to-day under which of the three acts authorizing such notes any one of them was issued. The amount outstanding at one time has however, never exceeded the aggregate amount authorized to be issued by the three acts, and its highest amount was reached Jan. 30, 1864, when it was \$449,338,902. The total amount of legal-tender paper issued by the government, exclusive of fractional currency, having a limited legal-tender quality, may be thus summed up:

United States notes.....	\$449,338,902
One-year 5 per cent notes.....	44,520,000
Two-year 6 per cent notes.....	166,480,000
Total.....	\$660,338,902

In July, 1865, the government had outstanding \$433,000,000 of United States notes, \$43,000,000 of one and two-year notes, and \$25,000,000 of fractional notes. In his report at the opening of Congress in that year Secretary McCulloch advocated a contraction of the currency, and to carry out this policy Congress, by an act approved April 12, 1866, directed "that of United States notes not more than \$10,000,000 may be retired and cancelled within six months of the passage of this act, and thereafter not more than \$4,000,000 per month." Under this act the notes were retired and cancelled as provided by law, and reduced to ashes, as provided by Treasury regulations, until threatened stringency in the money market made Congress eager to ward off, if possible, the inevitable result of contraction. By an act of Feb. 4, 1868, the authority to further retire United States notes was suspended, then leaving outstanding \$356,000,000. Now the maximum limit of United States notes had been fixed, by the act of June 30, 1864, at \$400,000,000, and during the year 1870 some financial genius discovered that this was meant to indicate the minimum also, and that \$44,000,000 in notes, though they had been burned according to regulations, still remained as a reserve which the Secretary of the Treasury could issue or retire at his discretion. By virtue of this newly-discovered discretionary power, Secretary Boutwell, in October, 1871, issued \$1,500,000 of this to relieve a stringency on Wall Street. By the following year he had issued \$4,637,256 of this reserve, but the outcry against his policy was so strong that he retired nearly all of it, and early in 1873 Secretary Richardson retired the rest. In the latter part of the year, however, on the occasion of the panic, Secretary Richardson reissued \$25,000,000 of it to relieve the embarrassed banks. A bill fixing the legal tender United States currency at \$400,000,000, and making some important stipulations about bank issues, was passed by both houses early in 1874, but was vetoed by the President. An act fixing the issue

of United States notes at \$332,000,000, the amount then outstanding, was approved June 20, 1874. Between 1868 and 1874 the amount of fractional notes had also been increased from \$25,000,000 to \$46,000,000. In January, 1875, the resumption act was passed, and under its provisions the retirement of United States notes was again begun. The redemption of the fractional currency with silver was also begun, and went on so rapidly that by the end of 1877 only \$16,000,000 of it remained. Congress passed an act May 31, 1878, forbidding the further retirement of United States notes under the resumption act. But the increase in the commerce of the country had by this time so far readjusted credits that the value of legal tender and coin had nearly become equal. Jan. 1, 1879, therefore, resumption took place according to law, without any serious derangement of the business of the country.

#### THE BLACK DEATH.

WATERLOO, Iowa.

Give an account of the great plague in Europe during the fourteenth century. A. C. A.

*Answer*—This great plague, known as the "Black Death," was the most deadly epidemic ever known. It is believed to have been an aggravated outburst of the Oriental plague, which from the earliest records of history has periodically appeared in Asia and Northern Africa. There had been a visitation of the plague in Europe in 1342; the Black Death, in terrible virulence, appeared in 1348-9; it also came in milder form in 1361-2, and again in 1369. The prevalence and severity of the pestilence during this century is ascribed to the disturbed conditions of the elements that preceded it. For a number of years Asia and Europe had suffered from mighty earthquakes, furious tornadoes, violent floods, clouds of locusts darkening the air and poisoning it with their corrupting bodies. Whether these natural disturbances were the causes of the plague is not certainly known, but many writers on the subject regard the connection as both probable and possible. The disease was brought from the Orient to Constantinople, and early in 1347 appeared in Sicily and several coast towns of Italy. After a brief pause, the pestilence broke out at Avignon in January, 1348; advanced thence to Southern France, Spain, and Northern Italy. Passing through France and visiting, but not yet ravaging, Germany, it made its way to England, cutting down its first victims at Dorset, in August, 1348. Thence it traveled slowly, reaching London early in the winter. Soon it embraced the entire kingdom, penetrating to every rural hamlet, so that England became a mere pest-house. The chief symptoms of the disease are described as "spitting, in some cases actual vomiting, of blood, the breaking out of inflammatory boils in parts, or over the whole, of the body, and the appearance of those dark blotches upon the skin which suggested its most startling name. Some of the victims died almost on the first attack, some in twelve hours, some in two days, almost all within the first three days." The utter powerlessness of medical skill before the disease was owing partly to the physicians' ignorance of its nature, and largely to the effect of the spirit of terror, which hung like a pall over men's minds.

After some months had passed, the practice of opening the hard boils was adopted, with very good effect, and many lives were thus saved. But the havoc wrought by the disease in England was terrible. It is said that 100,000 persons died in London, nearly 60,000 in Norwich and proportionate numbers in other cities. These figures seem incredible, but a recent writer, who has spent much time in the investigation of records, asserts that at least half of the population, or about 2,500,000 souls, of England perished in this outbreak. The ravages of the pestilence over the rest of the world were no less terrible. Germany is said to have lost 1,244,434 victims; Italy, over half the population. On a moderate calculation, it may be assumed, that there perished in Europe during the first appearance of the Black Death, fully 25,000,000 human beings. Concerning the Orient we have less reliable records, but 13,000,000 are said to have died in China, and 24,000,000 in the rest of Asia and adjacent islands. The plague also ravaged Northern Africa, but of its course there little is known. The horrors of that dreadful time were increased by the fearful persecutions visited on the Jews, who were accused of having caused the pestilence by poisoning the public wells. The people rose to exterminate the hapless race and killed them by fire and torture wherever found. It is impossible for us to conceive of the actual horror of such times.

#### SULPHUR.

GREENHAFTON, Minn.  
1. Where are the most noted sulphur mines? 2. Explain the process of digging and purifying it. 3. For what purposes is it used? R. RAMEER.

*Answer.*—1. Sulphur is an elemental substance, which occurs very widely distributed in the mineral kingdom, partly free and partly combined with other elements. Free sulphur is either found pure in regularly formed crystals, or mixed with earthy matter. The principal sources of crystalline sulphur are Urbino in Italy, Girgenti in Sicily, and Radoboy in Croatia, while the earthy sulphur is mainly derived from Italy, Moravia, and Poland. Iceland is rich in both varieties, but the mineral wealth of that island remains almost unworked. At present the greater part of the sulphur used in Europe comes from Sicily, and, as a rule, it is more or less abundant in volcanic districts. In the form of a sulphide, sulphur occurs abundantly in combination with iron, copper, lead, and zinc, and also with other metals. In the sulphates it is distributed even more generally, the sulphates of lime, magnesia, baryta, etc., being abundant natural productions. 2. The grosser impurities are taken away from sulphur crystals by melting and by distillation. When the vaporized sulphur is condensed in a large chamber, it is obtained in the form of flowers of sulphur, or when condensed in the liquid form in smaller and hotter receivers, it is cast into cylinders called roll sulphur. It may also be obtained from iron pyrites by heating it in close vessels. It is also thrown down from some of its compounds by the use of dilute hydrochloric acid, in these cases falling in the form of a grayish white fine powder known as milk of sulphur. 3. Sulphur is extensively employed in the arts and manufactures, as in the manufacture of matches, gunpowder, etc. When converted into sulphurous

acid it is a powerful bleaching agent, and is also used to destroy insects, fungi, etc., but its chief consumption is in the form of sulphuric acid, one of the most important acids in chemical manufacture. In medicine it is used for various purposes and in a number of forms. It acts as a laxative, a diaphoretic, and an alterative. It is also used in cutaneous diseases, both externally and internally, sometimes artificially prepared and sometimes as it exists in mineral springs.

#### THE DYAKS—SAMOAN ISLANDS.

MONTICELLO, Ill.  
1. Tell something about the race called the Dyaks, what their customs are, and where they live. 2. Where is the island of Samoa, and what interest has America in it, that it should be mentioned in the President's message? E. MARQUIS.

*Answer.*—1. The Dyaks are the aboriginal inhabitants of the island of Borneo. They are closely allied to the Malay race, but are less treacherous, and, indeed, in all respects morally superior. They are a tall, well-proportioned race, with straight black hair and generally regular features. When well treated, they are docile, industrious, and faithful. They are to a certain extent civilized, and live in substantial houses, and cultivate rice, the banana, sugar cane, and other products. Agriculture is their principal employment, but they are also skilled workers in iron, and understand spinning and weaving. One of their tribes also follows the sea for support, fishing, and carrying produce from one island to another. 2. The island of Samoa, or, more properly, the group known as the Samoan islands, is situated in the South Pacific Ocean, between latitude  $13\frac{1}{2}$  and  $14\frac{1}{2}$  degrees south and longitude 168 and 173 degrees west. There are four principal islands and four smaller ones besides some islets. The estimated area of the eight islands is about 1,650 square miles, their population about 37,000. The group was formerly known as the Navigators Islands. They were given this name by their discoverer, Bougainville, when he first visited them in 1768, from the skill of the natives in using their canoes. Missionaries from the Society Islands visited them in 1830, and subsequently prosperous missionary stations were established there. The inhabitants are now all nominally Christians, belonging to the Presbyterians, Methodists, or Roman Catholics, these three denominations having teachers among them. The most important port on the island is Pango-Pango, which in 1872 was taken under the protection of the United States by Commodore Meade, in arrangement with the native chiefs. This port is one of the safest and best harbors in the Pacific, being landlocked, with an entrance clear of rocks, and water enough for the largest vessels. As it is on the direct route from America to Australia, it is an important commercial point. During President Grant's administration A. B. Steinberger was sent out there to act as a special agent of the United States Government, in response to an alleged desire of the Samoans that our protection be extended over the entire group. Steinberger, however, encouraged the election of a native king, and became the prime minister of the new monarch. Our Government has no desire to claim these lands as a dependency, but it was thought best to retain a partial protection over them, as a



guarantee against European aggressions. For instance, Apia, the capital of the islands, has become an important trade center, and its business is almost wholly in the hands of Germans. In November, 1884, the Samoan King drew up an agreement with the German Government for the settlement of mutual rights of trade. Quite an extended correspondence was held several months later between Bismarck and Lord Granville concerning this agreement, and the former positively disclaimed any desire to interfere with the independence of the islands. But the fact that a large part of the inhabitants of the islands favored annexation to the British colony of New Zealand, while at the same time the powers of Germany, Great Britain, France, and the United States were all commercially interested in the islands, rendered the continuance of their independence a matter of international importance. Early in 1885 the German flag was raised at Apia by the German Consul. The German Government disclaimed responsibility for this, but showed a firm determination to hold all rights already gained on the islands. An attempt was made by Germany early in 1886 to establish a formal claim to the islands, but the objections on the part of England and America brought about a tripartite agreement in which the three powers agreed not to interfere with the independence of the islands unless all concerned should consent. The islands therefore, still retain their own government.

#### THE GNADENHUTTEN MASSACRE.

Give account of the massacre of Christian Indians at Gnadenhutten, Ohio.

CHICAGO.

L. MALDEN.

*Answer.*—The Moravian missionaries, who had come to the West about 1760, had met with great success in converting the Indians to their faith. They had established three villages of converts on the Tuscarawas River, Ohio. One of these was called Gnadenhutten, and was on the east side of the river, near the present village of that name. These Indians were about midway between the white settlements on the Ohio River and the villages of the warlike Wyandots and Delawares on the Sandusky River. The Christian Indians were Delawares, but they were friends of peace, and endeavored to maintain, as far as they could, a neutral position between the Americans on the one side and the savage Indians, who were generally under British influence, on the other. But each party was inclined to suspect the Christian Indians, in any trouble, of aiding the other. In March, 1782, there were murders committed near Pittsburg by wandering bands of Shawnees, and the Christian Indians were suspected, though apparently without any real reason, of having incited them, and a band of volunteer militia, under Colonel Williamson, of the British army, set out to take vengeance. They found the Indians pursuing altogether peaceful occupations, but they took them all prisoners, bound them, and confined them, the men in one house, the women in another. There were about 100 in all. A council of war was then held to decide whether the Indians should be taken to Fort Pitt as captives, or immediately put to death. Only sixteen out of ninety white men voted for mercy: the others all voted for death.

Then they rushed upon the helpless Indians, murdered and scalped the whole of them, and laid the village in ruins.

#### HAND GRENADES.

LITTLE ROCK, IOWA.

Can you give us a formula for making a cheap hand grenade, or fire extinguisher?

GEORGE MONLUX.

*Answer.*—There are several appliances of this kind patented. We do not know their compounds, but we know that any chemist can give a formula for a mixture that will effectively extinguish an incipient fire. For instance, the following recipe will serve: Take 19½ parts common salt, 8.9-10 parts sal-ammoniac, and 71.6-10 parts water; mix well, and put into bottles of thin glass, so that they will break readily when thrown at a fire. Cork the bottles and cover the tops with sealing wax, to prevent evaporation.

#### CHICAGO HISTORICAL SOCIETY.

CHICAGO.

Give information concerning the Chicago Historical Society, its aims, and manner of working.

R. V. T.

*Answer.*—The Chicago Historical Society was organized April 24, 1856, at the suggestion and largely through the efforts of the Rev. William Barry, who was made the first Secretary of the society. Its first President was Mr. William H. Brown. The objects of the society, as stated in its constitution, were the "establishment of a library and a cabinet of antiquities, relics, etc.: the collection of historical manuscripts, documents, papers, and tracts; the encouragement of the discovery and investigation of aboriginal remains, especially within the State, and the collection of material illustrating the settlement and growth of Chicago." In February, 1857, the society was incorporated under the laws of Illinois. By the opening of the year 1858 the collections of the library reached 13,000 volumes. In March of that year Mr. Newberry gave the society a large room in a building on the corner of North Wells and Kinzie streets. In May, 1859, the society held an art exhibition in a building on the corner of Wabash avenue and Lake street. It was the first public exhibition of paintings and statuary ever held in the State, and attracted much interest. In 1860 the society received the bequest known as "the Gilpin fund," a fund which was to be invested and reinvested in city bonds, and after ten years the income was to be used in the erection of a fire-proof building. The collections of the society went on increasing until it became necessary, in 1868, to erect a building especially to hold the library treasures. It was a large, one-story brick building, on the corner of Dearborn avenue and Outaric, and was intended to be only one wing of the completed structure. It was 42x90 feet, and cost, with grounds, \$60,000. The new hall was dedicated Nov. 19, 1868, with impressive ceremonies. When opened to the public, there were stored within its walls 100,000 volumes, documents, maps, etc. Soon after this came the great fire of 1871, in which all the treasures of the society were swept out of existence, and its new building left a heap of ruins. Among the rare MSS. burned were the original draft of Lincoln's Emancipation Proclamation, the documentary history of Chicago and the

Northwest, and 1,738 files of newspapers, dating back to the time of the earliest settlements in the West. There were 4,689 manuscripts, gathered at great expense, hundreds relating to the early Indian wars and nations. No more valuable and complete Indian historical collection is or ever has been in existence. A number of valuable paintings of noted men of early times in the West and of famous Indian warriors and chiefs were also destroyed. Immediately after the fire many collections were forwarded to the society from Europe and other sources, and these, unfortunately, were also all destroyed in the fire of July, 1874. In 1877 money was raised to put up the present building, 140-2 Dearborn avenue. The library now has about 10,000 volumes and great numbers of pamphlets and newspapers, and many fine portraits and pictures.

#### ST. ROSE, OF LIMA.

AKRON, IOWA. Give an account of St. Rose, of Lima. What religion generally prevails in South America?

J. I. C.

*Answer.*—St. Rose, of Lima, or St. Rosa, enjoys the honor of being the only American saint on the canonical record. She was born at Lima, Peru, in 1586. Her parents were wealthy Spaniards, and gave their child in baptism the name of Isabel, but it is said that her extreme beauty caused her to be called Rosa. When on the verge of womanhood her parents lost their wealth, and the young girl entered the household of the treasurer, Gonsalvo, that by her labor she might support her family. She received many offers of marriage, but, in spite of her parents' urgent requests, she refused all, and to strengthen herself in her ascetic resolutions she adopted the habit of the Dominican Sisters in 1606. She spent a life of severe fasting, and wore around her head, in remembrance of our Savior's Passion, a circlet of silver studded inside with sharp pins. She was possessed of a most excitable imagination, and was haunted for years with horrible phantoms and apparitions, all of which she regarded as assaults of the Evil One, but which were no doubt owing to her want of due nourishment. After years of suffering from a complication of diseases, she died Aug. 24, 1617, and was buried in the Dominican convent at Lima. She was canonized by Clement X., who ordered her festival to be kept on Aug. 30. The prevailing religion among the white inhabitants of the South American States is the Roman Catholic.

#### THE SHEPHERD KINGS OF EGYPT.

CLERMONT, MS.

Why were the Pharaohs of the sixteenth dynasty of Egypt called "shepherd kings" when the Egyptians regarded shepherds as a low caste?

J. H. LEMAN.

*Answer.*—About 2214 B. C., according to the historian Manetho, certain invaders from the East conquered Egypt, without a battle, destroying the temples and slaying or enslaving the people. For over 300 years before this time there had been continual disturbances and popular outbreaks in Egypt, and finally the kingdom had been divided, one of the factions having established itself in the Delta, where it held power in defiance of the legitimate sovereigns. This division no doubt aided and perhaps instigated the conquest of the country by these invaders, who made one of their number king, established his rule firmly in Memphis, and made all

Egypt tributary to him. The Egyptians called these intruders the Hyksos, or "shepherd kings," and it is supposed that it was the memory of their hatred of these usurpers that made in later years every shepherd "an abomination to the Egyptians." It is supposed that these shepherd kings were nomad tribes of Syria and Arabia. Chief among them were the Hittites, a mighty tribe, whose history has been wrapped in obscurity until recently revealed by the study of archaeological records. The Hyksos treated the Egyptians with great cruelty, defaced and destroyed their temples and other monuments with savage violence. They established their capital at Avaris, on the north-eastern frontier, and maintained there a powerful garrison. They held the rule for about 511 years, forming the kings of the fifteenth, sixteenth, and seventeenth dynasties. One of the later kings of their number was Apophis, supposed to be the monarch under whom Joseph was raised to great power. At last the kings of Thebais and the rest of Egypt rose against the Shepherd Kings, and a long and terrible war was waged, in which the Shepherds were driven out of all Egypt but the city of Avaris, wherein they entrenched and defended themselves. The Egyptian army, being unable to drive them from this place, agreed to a capitulation, as a condition of which most of the Shepherds left the country. Those who remained were allowed to settle by themselves in a part of the Delta. Some historians have endeavored to identify the departure of the Hyksos with the exodus, but examination shows that this occurred several hundred years later, under the rule of Merneptah, the son of Rameses II.

#### COREA AND THE COREANS.

MARCY, Ia. Give some account of Corea, the land and the people. Why is it called the "Hermut Nation?"

R. W. G.

*Answer.*—The name Corea, which is now applied to the country occupying the peninsula stretching south from the northern portion of the Chinese Empire, was originally restricted to the northern province of the present kingdom, Korie. This province was then a dependency of China, but most of the peninsula was divided up into petty states, too disorganized to be styled independent. In the latter part of the fourteenth century Korie, under Tia-tso, or Litan, brought the whole of the peninsula under one government, though the state still continued under the suzerainty of China. As a part of the Celestial Empire Corea received the official title Tsosen, or "Serenity of the Morning," possibly with reference to its geographical position, between the continent and Japan, the "Land of the Rising Sun." As to the name of the inhabitants of the peninsula, it is given in Japanese history as Kmaso, "Herd of Bears," but this is evidently an epithet, and probably not a complimentary one. Yet the Coreans do not seem to have deserved to be styled savage, even by implication, for to them the Japanese owe not only their peculiar form of Buddhism, but their knowledge of phonetic spelling, of the manufacture of porcelain and other industries. In the seventeenth century, the Japanese Queen Regent Zingū invaded and conquered a large portion of Corea, and since then



Japan has disputed China's suzerain rights, so that, between the two, Korea has maintained virtual independence. The Korean race is classed as Mongolian with traces of Caucasian stock. "Of the 3,000,000 or 10,000,000 inhabitants of the peninsula," writes A. H. Keane, "probably five-sixths may be described as distinguished by broad and rather flat features, high cheek bones, slightly oblique black eyes, small nose, thick lips, black and lank hair, sparse beard, yellowish or coppery complexion. The rest, representing the original Caucasic element, are characterized by round or olive features, large nose, light complexion, delicate skin, chestnut or brown hair, blue eyes, full beard." The Koreans are taller and more robust than the Chinese and Japanese, and are considered fully equal to them in intelligence and moral qualities, but decidedly behind them as regards the arts and sciences. Their religion is idolatrous, but the images of the gods are treated with contempt and indifference. The persecutions of the Jesuit missionaries and their converts during the first half of this century arose from the hatred of foreigners rather than from religious zeal. The Koreans have always had a detestation of outside nations, and have endeavored so persistently to exclude themselves from the rest of the world, that the name "Hermit Nation" has been given to them for this reason. The country of Korea is productive, and is believed to possess great mineral wealth, but the government does not permit any mining beyond what is needed for its own requirements. Of course outsiders know almost nothing of the actual condition of the interior of the country.

#### THE CONTINENTAL CURRENCY.

HICKORY, Mo.

Please give a history of the old Continental currency. Is it of any value at the present time?

A. L. R.

*Answer.*—The issue of bills of credit not only by the colonies, but by the Continental Congress, became a necessity when the war began in 1775. The second Congress met in Philadelphia, May 10, of that year, and on the first day the measure was agreed upon in secret session, but was not adopted until June 22, the day on which Congress received the news of the battle of Bunker Hill. Then it was resolved that a sum not exceeding \$20,000,000 be issued in bills of credit, for whose redemption the twelve Confederate colonies—Georgia not being then represented—were pledged. The bill specified the form and the number and denomination of all the bills that were to be issued. The plates of the bills were engraved by Paul Revere, of Boston. The size of the bills averaged  $3\frac{1}{2}$  by  $2\frac{3}{4}$  inches, and they were printed on thick paper. New issues of this currency were made from time to time until the close of 1779, when the aggregate amount was \$242,000,000, and the bills had so much depreciated then that \$100 in specie would purchase \$2,600 in paper money; in 1781 the same amount in specie would buy \$7,500 in paper. Strenuous efforts were made by Congress to keep up the credit of this currency, but as the one essential to save it, a pledge from the States to redeem it in specie, could not be secured, the money was bound to go down. Early in 1777 a convention of representatives of the New England States agreed upon a scale of prices

for all goods. This was strongly opposed by merchants, but the New England States soon after enacted it into a law, and a similar law was adopted soon after by the Middle States, including Maryland and Virginia. Congress approved of this scheme, and further passed a resolution declaring that the bills of credit ought to pass current in all payments, trade, and dealings, and be deemed equal in value to the same nominal sum in Spanish dollars. It further resolved that all persons refusing to take them "should be considered enemies of the United States," on whom "forfeitures and other penalties," ought to be inflicted by the local authorities. These resolutions, however, could not check the inevitable, but as the depreciation of the money was gradual, it operated as a tax, and thus prevented undue suffering. Moreover, the money had served a good purpose, for it had enabled the colonies to carry on three years of war with a powerful foe almost without taxation. This currency has no value now except to the collectors of curious coins and relics.

#### PROHIBITORY LAWS IN THE STATES.

DIGHTON, Kan.

Can Our Curiosity Shop tell us what States have tried prohibition, and with what success? Also what States have local option and license laws?

N. E. D.

*Answer.*—A number of the States have experimented with prohibitory laws. The first to enact a law of this kind was Maine, whose Legislature in 1846 passed a bill forbidding the traffic in liquors, but this proved so imperfect in detail that it could not be enforced. Another attempt was made in 1851, when the famous "Maine liquor law" was enacted. This is still in force in that State, and in 1884 its specifications were put in the form of a constitutional amendment, and adopted by a large popular majority. Vermont enacted a prohibitory law in 1832, its provisions, however, being much less stringent than those of the Maine law. It was strengthened by the passage in 1869 of a civil damage act, which provided that damages might be collected from the liquor seller for injuries inflicted by his customers, while in a state of intoxication, upon themselves or others. A mild prohibitory law was also passed by New Hampshire in 1855, which has been strengthened by enactments since adopted. Damages are assessed on the liquor-seller for the acts of drunkards in that State also, by an act passed in 1870. In Massachusetts the temperance excitement of 1852 resulted in the passage of a prohibitory law by the Legislature, but the courts decided the law was unconstitutional, and in 1853 it was repealed. In 1855 the Know-nothing party being in power in the Assembly, another prohibitory law was passed. This was on trial for several years before the courts, but at length its constitutionality was affirmed. The question whether this law really prohibited the sale of liquor effectually was never settled, and in 1863 it was repealed because of great popular dissatisfaction with its manner of working. A milder law was passed in 1869, and this being even more unsatisfactory, was abolished in 1875, and replaced by a license law which still exists. In Rhode Island, as in Massachusetts, a law passed during the excited state of public feeling in 1852, was declared unconstitutional the following year. The law was then

amended so as not to conflict with the constitution, and the question of its adoption being submitted to the people, it was approved by a small majority. In 1863, however, the law was repealed. In 1874 a similar law was passed only to be abolished the next year, when a license law, prohibiting the sale of liquors to minors and drunkards and also on Sundays, and providing for the collection of damages from the liquor-dealer, was passed. A prohibitory amendment was offered to the people in 1886, but was not adopted. Connecticut passed a prohibitory law in 1854. But owing to some defect in the law, or to the indifference of the people, it could not be enforced, and became virtually a dead letter. About 1870, therefore, it was superseded by the present license law, which has the local option feature. This has given opportunity to a large number of towns and districts to positively forbid the sale of liquor in their locality, so that nearly half of the State is under practical prohibition. Michigan in 1853 adopted a prohibitory law which was repealed almost immediately. A similar law, however, was adopted in 1855, which continued on the statute books for about twenty years. As it had become inoperative through popular indifference, it was replaced by a license law in 1875. This latter was strengthened in 1883 by the adoption of a damage clause. In 1855 New York passed a prohibitory law, which shared the fate of many similar enactments, being declared unconstitutional, and repealed the following year. In 1861 efforts were made to secure prohibition in the revised constitution, but the result was failure. During the last session of the Legislature, a bill to regulate the license traffic in large cities was passed by both houses, but was vetoed by Governor Hill. The extent of New Jersey's prohibition is a law passed in 1797, and still in force, forbidding the distribution or sale of liquors at a public auction. Pennsylvania once had a prohibitory statute on its books for a few months. It was adopted in 1855 and repealed in 1856. This law had been preceded by a "no-license act," which had been enacted by the Legislature in 1846, and had been pronounced unconstitutional by the Supreme Court. In 1872 a law was passed giving local option to the counties, and sixty-seven of them voted against licensing the traffic. In two years that law was repealed and a license law adopted, which is still in force. Delaware has tried prohibition twice. The first law was passed in 1847, only to be repealed in 1848. The second law was made in 1855, but it was in a few years displaced by a license law, which is still in existence. Three other States, Indiana, Illinois, and Iowa, adopted prohibitory laws in 1855. That of Indiana was declared void soon after, and has never been re-enacted. The legislative enactment of Illinois was submitted to the people, and rejected by them. Since then no effort has been made to make the State prohibitory, but a high-license law was passed by the Legislature of 1882-3. This law has been declared constitutional by the courts, and has been generally successful in operation. The Iowa law has stood, with some modifications, and where public opinion has supported it, has been generally executed. In 1882 a prohibitory clause was put into the constitution by popular vote. This amendment has been declared void by the

Supreme Court, on account of certain technical errors in drawing it up. Ohio put a "no-license" clause in its constitution in 1851, and the sale of liquors has been virtually free throughout the State. Attempts have been made at several times to regulate the traffic by law, but all have failed. Two of the States adopted prohibitory laws while they were still under Territorial organization—Minnesota in 1852, and Nebraska in 1855. In both cases the law was modified to make it fit public sentiment more nearly, and both States now have high-license laws, Minnesota's adopted in 1874, and Nebraska's—which is much the more stringent of the two—in 1880. Kansas adopted a modified prohibitory law in 1866. In 1880 popular vote added an amendment to the constitution prohibiting the manufacture and sale of intoxicating liquors in the State "except for medical, scientific, and mechanical purposes." In other States which have never coquetted with total prohibition, there are yet important regulations of the traffic. In Georgia, ninety-five counties have suppressed the sale of liquor through the privilege of local option. Similar laws are made somewhat effective, also, in Texas, Arkansas, and Florida. Other States have laws forbidding the sale of liquor within a certain distance of a school, or to minors, to persons of notoriously intemperate habits, etc. Even where extreme opinions on the subject are not held, there is yet a general consensus of sentiment in favor of placing the traffic under regulation.

#### THE TEMPLE AT DELPHI.

BLAIR, Neb.  
Give an account of the temple at Delphi, Greece.  
H. H. H.

*Answer.*—The legend says that Apollo himself established his sanctuary at Delphi; that the first temple was made of branches of bay, the second was made by bees, with wax and wings, and the third was built of brass. The stately edifices known to have existed there at the beginning of the historic period are said to have been the work of two architects named Trophonius and Agamedes. This temple having been destroyed 548 B. C., the Amphictyons undertook to build another for the sum of 300 talents, of which the Delphians were to pay one-fourth, and the remainder was to be contributed by the other cities of Greece. The contract for the building of the temple was taken by the family of Alcæonids, who at that time were in exile, having been banished by the tyrant Hippias, and these earned great popularity by the disinterested liberality with which they performed their task, making the temple much handsomer than had been at first intended, at their own expense. The temple is said to have been of the Doric order without and the Ionic within. The front was built of Parian marble, and the sculptured decorations were rich and beautiful. The arches above the entrances were adorned with representations of legends of mythology, and similar adornments were carved upon the panels of the walls. The golden shields taken at Marathon, and also in battles with the Gauls, adorned the architraves within, and images and statues in brass and in marble further enriched the interior. The treasures of this beautiful temple of course excited the cupidity of conquerors, but the sacred character of the place long pro-



ted it from plunderers. The attempts of the Persians in 480 B. C. and of the Gauls in 279 B. C., to rob the temple, were both, it was said, prevented by the miraculous interference of Apollo. The temple, however, was plundered by Sulla and again by Nero, who silenced the oracle. Hadrian restored it, and again it enjoyed its beauty and magnificence. Constantine the Great took from the temple many of its most beautiful works of art, but the oracle flourished until it was abolished by Theodosius, and the temple destroyed in the latter part of the fourth century.

## TO THE MANNER BORN.

OBERLIN, Ohio.

Is the quotation "To the manner born" correct or should it be "To the manor born," as it is sometimes given? Give the history and application of the phrase.

*Answer.*—The form should be "to the manner born." This is evident from the original use of the phrase, which occurs in Shakespeare's play of "Hamlet," act I, scene iv. While Hamlet and his friends, Horatio and Marcellus, are waiting on the platform without the palace for the possible appearance of the ghost of the dead King there is heard a flourish of trumpets and the sound of a cannon within. To inquiry as to the meaning this Hamlet says:

"The King doth wake to-night and takes his rouse,  
Keeps wassail and the swaggering upspring reels;  
And as he drains his draughts of Rhenish down  
The kettle-drum and trumpet thus bray out  
The triumph of his pledge."

This allusion is to an actual custom among the ancient Saxons and Danes of celebrating each time that the King drained his goblet with a salute of drums, trumpets or shots. Therefore to the question "Is it a custom?" Hamlet answers:

"Ay, merry, is't,  
But to my mind, though I am native here,  
And to the manner born—it is a custom  
More honored in the breach than in the observance."

## ALEXANDER I, OF BULGARIA.

OSAGE, IOWA.

Give sketch of Alexander, the late Prince of Bulgaria.

L. R. N.

*Answer.*—Alexander I, first prince of Bulgaria, was born April 5, 1857. He is the son of Prince Alexander, of Hesse, the brother of the Empress of Russia. His mother was the daughter of Count Hanke, who was a Russian general, and after her marriage to the Prince of Hesse she received the title of Princess of Battenberg. Prince Alexander is the second son of this union, the elder being Prince Henry, who recently married Princess Beatrice, the youngest daughter of Queen Victoria. Alexander served in the Russian army through the Russo-Turkish war of 1876-77, in the ranks of the Uhlands, and also on the staff of Prince Charles, of Roumania. He was at the siege of Plevna, was among the first who crossed the Balkans with General Gourko, and was with the Grand Duke Nicholas when he entered Constantinople. In April, 1879, Alexander was unanimously chosen by the Bulgarian Constituent Assembly as Prince of that country. He began to rule the country under a constitution which placed the legislative power in the hands of a National assembly elected by the

people. The Prince could not control this as he wished to do, and therefore, in 1886, he dissolved it, and procured the election of a Grand National Assembly, which voted, July 13, 1881, to invest him with autocratic legislative and executive powers for seven years. The Prince, it seems, believed that he could do very much more for the good of the country with absolute power than when he was hampered by constitutional restrictions, but he soon found out that his most serious barrier in the way of inaugurating needed reforms in the Bulgarian Government was the power of his uncle, the Czar. Bulgaria owed her independence to the aid given by the Czar to the Balkan states against Turkey in the war of 1877, and Prince Alexander owed his choice by the Bulgarians largely to the fact that he was connected with so powerful a ruler. And when Alexander wished to rule the country for himself, and not as a mere viceroy of the Czar, he got into trouble immediately. The Russian Government sent an extraordinary ambassador to direct the settlement of a new constitution, with whom Alexander quarreled immediately. He was in constant difficulties with the Russian officers and diplomatists that had come to Sofia to take a share in the political turmoil, and his opponents at last raised so strong a party against him that in the latter part of 1886 they deposed him, and drove him from the country.

## THE UPAS TREE.

FISHERVILLE, Pa.

Tell the facts and fables of the Upas tree.

READER.

*Answer.*—The upas is a tree belonging to the breadfruit family, which grows on the Island of Java. It grows to about 100 feet in height, with a straight trunk and rounded head. The leaves are oblong, about five inches in length. The tree has small white flowers and a small purple fruit, like a plum. When this tree was first made known, extraordinary stories were told of it by Foersch, a surgeon in the service of the Dutch East India Company, who published a narrative concerning his experience on the island, in 1783. He said that the emanations of the tree killed all living things near it, even the birds that flew over it falling dead; that criminals condemned to death were sent to the tree to gather its poisons, and but two out of twenty ever returned. He declared that those fortunate enough to come back alive assured him that the tree grew in a valley, with no other living thing, not even a plant or blade of grass within miles of it, and that of 1,600 persons who had been forced by a civil war to encamp about fourteen miles from the tree, all but 300 died. These stories were accepted and repeated, until they were altogether disproved by the report of the eminent traveler, Leschenault, in 1810. Evidently, Dr. Foersch must have strangely confounded the upas tree with the poison valley, a locality rendered deadly by emanations of carbonic acid from rocks in the vicinity. The upas actually grows in the forest with other trees, and no animals show any especial fear of it. Its emanations are somewhat poisonous to the skin of human beings, but not more so than those of the sumach or other similar plants, and like these are poisonous to some persons and not to others. The juice or sap of the tree is poisonous to the blood, and

has been used by the Javans from time immemorial to poison the points of their arrows and spears. The substance, when introduced into the circulation, acts directly on the principal blood-vessels, causing death in a short time by congestion. There is a upas tree growing in Kew Gardens, London, and others in other European botanic gardens, where they are shown to be comparatively harmless.

#### GOLD, SILVER, AND NICKEL PLATING.

Can Our Curiosity Shop give us recipes for making and applying gold plating; also plating of silver and of nickel?

BAKER, Kan.

W. COOPER.

*Answer.*—The precious metals are usually applied by means of electricity in modern jewelry work, the deposit thus made being far more handsome and durable than when put on in any other way. But a gold plating solution can be made by dissolving half an ounce of gold amalgam in one ounce of nitro-muriatic acid. To this two ounces of alcohol should be added, and then, the article having been thoroughly cleaned, the solution may be applied with a soft brush. Rinse and dry the article with sawdust, and then polish well with chamois skin. An easy method of silver-plating is given as follows: Put eight silver quarter-dollars into two ounces of nitric acid. When the silver disappears, throw into it a pint of water and four ounces of common salt. The salt will throw down a powder, which is pure silver. Now decant off the water, and repeat the washings till all the effects of the salt shall have disappeared. Add to the white powder remaining two ounces of cyanide of potassium and three ounces of hyposulphite of soda. Add to this two quarts of pure rain water, and you have a silver mixture that may be used to silver ornaments or goods of any kind. The article should be suspended in the solution, or if the plating is desired to be thick, immerse the article and boil it from ten to twenty minutes. Nickel may be used by simply dissolving it in nitric acid, adding alcohol, and applying the solution with a brush.

#### THE BERNADOTTES.

FLANDREAU, D. T.

Give a sketch of the royal family of Sweden and Norway, and the salaries paid to each member of the family.

J. W. JOHNSON.

*Answer.*—The founder of the present reigning family of Sweden was Jean Baptiste Jules Bernadotte, who was the son of a French lawyer, and was born at Pau, Jan. 26, 1764. He was educated for his father's profession, but gave it up and enlisted in the army as a common soldier. He became an ardent upholder of the revolution, and in the army showed remarkable genius, and rapidly rose to high rank. He greatly distinguished himself in the Napoleonic wars, manifesting heroic courage and great ability in the field. As he would not lend himself to the ambitious schemes of Napoleon, however, that ruler always distrusted him. The two had a serious difficulty after the battle of Wagram, and Bernadotte left the army in disgust, and returned to Paris. He was afterward sent by the ministerial council to oppose the British army, which had landed at Walcheren, but was recalled by the Emperor. Soon after this he was elected, Aug. 21, 1810, as crown prince of Sweden, and heir to the throne. Almost the only condition

imposed upon him by the Swedes, was that he should join the Protestant church. Napoleon, before freeing him from French allegiance, wished him to sign a pledge never to take up arms to fight against France; but as Bernadotte refused to do this, claiming that his obligations to Sweden would not permit it, Napoleon absolved him from French claims unconditionally. The new prince set out immediately for Stockholm, and the following year the health of the King, Charles XIII., giving way, he became regent of the kingdom. In 1812 French troops invaded Swedish Pomerania, whereupon Sweden formed with Russia an alliance against France. Bernadotte at this time was the arbiter of the destinies of Europe, for both France and Russia were bidding for his alliance. Napoleon offered him Finland, Mecklenburg, Stettin, and all the territory between Stettin and Volga; but Bernadotte preferred to remain on the side of Russia. He now mediated peace between England and Russia, and after the French retreat from Moscow he entered the European coalition against Napoleon, on the pledge of the powers that Norway should be given to him. He commanded the army of the allies in the north of Germany, and defeated Oudinot at Grossburen and Ney at Dennewitz, and also contributed greatly to the victory of the allies in the battle of Leipzig. He then marched against Denmark, and forced Frederick VI. to sign the treaty of Kiel, by which Norway was to be ceded to Sweden. He seemed very reluctant to join in the invasion of France, moved his army but slowly, and paused on the frontier, but went personally to Paris after the abdication of Napoleon. The union of Norway and Sweden was soon effected, and on the death of Charles XIII., in February, 1818, Bernadotte was acknowledged throughout Europe as King of Sweden and Norway under the name of Charles XIV. John. Although ignorant of the language of the countries over which he reigned, Bernadotte was a very successful ruler. He reigned for twenty-six years, and during this time education was greatly promoted, agriculture, manufactures, and commerce prospered; many great public works were accomplished, and the military strength of the kingdom was much increased. He died March 8, 1844, and was succeeded by his son, Oscar I. This King had been born in Paris, and was 11 years old when his father was elected the Crown Prince of Sweden. He was a young man of much talent and attained to great proficiency in literature, science, and the fine arts. He was a skilled musician and spoke and wrote Swedish with the readiness of a native. He wrote a number of essays on political and social subjects, which showed both intelligence and sound judgment. As King he was an unwearied advocate of all liberal reforms, and in this respect was far in advance of his people. He suffered much from a constitutional disease, which was greatly increased by his great grief upon the death of his second son, Gustavus, in 1852. In 1857 he resigned his authority into the hands of his eldest son, Charles, as regent. The wife of Oscar I was Eugenie, the daughter of Eugene Beauharnais; his mother was the sister of the wife of Joseph Bonaparte. Charles XV became



king on the death of his father, July 8, 1859. He was an excellent sportsman and artist, an accomplished poet and writer, and author of several works. Most important parliamentary and social reforms were brought about through his influence, and he was very popular with all classes on account of his enlightened policy as well as his attractive personal qualities. When he died, Sept. 2, 1872, his death was mourned as a great public calamity throughout the nation. By his will he left nearly all of his fine collection of paintings and arms to the public museum. He left but one child, a daughter, who is now the wife of the Crown Prince of Denmark. He was succeeded by his brother, Oscar II, the present king. This monarch has continued the policy of his predecessors, endeavoring to enlarge the liberty and increase the prosperity of all classes of the people. The royal family in Sweden now consists of the king, Oscar II, his wife, Queen Sophia, who is a daughter of the Duke of Nassau, and their four children, all sons—Prince Gustaf, born in 1858; Prince Oscar, both in 1859; Prince Charles, 1861, and Prince Eugene, 1865. Also, the sister of the king, the Princess Eugenie, who is now 57 years of age, and the family of Prince Gustaf, who married the Princess Victoria of Baden in 1881, and has two young sons. The royal family receive an allowance yearly of 1,338,000 kronor—about \$371,665—from Sweden, and 433,922 kronor—\$120,530—from Norway. The sovereign has himself, beside this, an annuity of about \$83,330, which was voted to Charles XIV. and his successors.

## GINSENG.

Give some account of the ginseng plant and its properties.

EASTMAN, WIS.  
S. LARSEN.

*Answer.*—The ginseng is a perennial herb. One species grows in China and the other is a native of the United States. The stem of the plant grows to the height of about a foot and bears at the top three leaves, each with a long petiole and five divisions, and between the leaves an umbel of inconspicuous flowers of greenish white hue. When this falls off it is succeeded by a cluster of small berries. The fleshy root of this plant, which is from four to nine inches long, is the part chiefly valued. It has been used as a medicine in China from the earliest times, and is regarded there as a panacea for nearly all diseases. Physicians of Europe and America, however, who have tested the plant thoroughly, regard it as a comparatively inert substance. It is not used in medical practice here except sometimes as a demulcent. But it is raised quite extensively here, having some sale to persons who have formed the habit of chewing it, but principally for exportation to China. It is said that before the introduction of the American root ginseng sold for its weight in gold among the Chinese, but the importation of a large supply from this country has now greatly reduced the price.

## WOMAN'S RIGHTS IN ILLINOIS.

1. What is the law as to women voting for school officers in Illinois, or as to holding school offices?  
2. What are the property rights of married women in Illinois?

*Answer.*—1. Women have not yet received the privilege of voting for school officials in this State, though there is held to be nothing in existing laws

that prevents them from holding any school office. 2. In Illinois a married woman may sue and be sued, possess her own earnings, contract and incur liabilities, purchase, sell, and hold personal property, and own and hold real estate to the same extent as an unmarried woman. The law does not make her husband liable for her debts, except for the necessities of life, or, of course, where a business partnership exists; but she may not enter into a business partnership with another person without her husband's consent, unless he has abandoned her, or is mentally incapable. A husband may transfer his property to his wife to secure it against outside claims, provided the transfer is made in writing and acknowledged and recorded as a chattel mortgage, and either husband or wife may give the other power of attorney to dispose of his or her property. Both husband and wife are liable for family expenses. When either husband or wife dies, the other is endowed with a third part of the real estate owned by the deceased.

## THOMAS CORWIN.

Give a sketch of Thomas Corwin, the Ohio "Wagonboy."

UTICA, WIS.  
W. HUBER.

*Answer.*—Thomas Corwin was born in Bourbon County, Kentucky, in July, 1794. His parents removed to Ohio when he was a lad. His educational advantages were but slight, yet he began the study of law when 21 years of age, was admitted to the bar three years later, and soon gained a wide practice through his ability and influence. He was a member of the Ohio Legislature from 1822-29, and was sent to Congress in 1830. In 1840 he was elected as the Whig candidate for Governor of Ohio, against Wilson Shannon, Democrat. Two years later, however, the same candidates being again in the field, Shannon was the victor. In 1844 Mr. Corwin was sent to the United States Senate, but in 1851 resigned his seat to take the office of Secretary of the Treasury in President Fillmore's Cabinet. In March, 1857, he retired to his law practice at Lebanon, Ohio, and in 1858 was again elected as a Representative to Congress. He was re-elected in 1860, but resigned his seat to accept the appointment of Minister to Mexico. On the arrival of Maximilian at the head of the French army, Mr. Corwin came home and did not return. He took up his residence in Washington, where he engaged in the practice of law until his death, which occurred Dec. 18, 1865.

## FIFTY-SEVENTH ILLINOIS INFANTRY.

Give a brief sketch of the Fifty-seventh Illinois Infantry, with names of officers.

ST. JOSEPH, Mich.  
I. M. J.

*Answer.*—The Fifty-seventh was recruited in the autumn of 1861 from various parts of the State. December 26 the regiment was mustered into service with S. D. Baldwin as Colonel; F. J. Hurlbut, Lieutenant Colonel; N. B. Page, Major; N. E. Hahn, Adjutant; E. Hamilton, Quartermaster. The regiment left Camp Douglas for Cairo Feb. 8, 1862, and from there was sent forward, arriving before Fort Donelson while the fight was going on but was held in reserve and took no active part in the engagement. Its first actual fighting was on the field of Shiloh, where it lost 187 in killed and wounded. It took part in the march upon Corinth, and remained in camp near that town during the

summer. At the battle of Corinth, in October, its losses were forty-two. During 1863 the regiment was generally employed in scouting in Tennessee and Northern Mississippi. In January, 1864, the most of the regiment re-enlisted. In May following it joined General Sherman's army before Chattanooga. Was in the engagements of Resaca and Rome Cross Roads, and took part in General Wheeler's expedition. Part of the regiment was also at the fight at Allatoona Pass. The regiment went with Sherman to the sea, to Washington for review, and, coming home, was disbanded at Camp Douglas July 14, 1865.

#### CYCLONES AND TORNADOES.

What is the difference between a cyclone and a tornado? Give the characteristics of both kinds of storms, if different.

SEWARD, Neb.

R. N. D.

*Answer*—In common speech no difference is recognized between these two classes of storms, but accurately speaking they are essentially different. The cyclone is an ocean storm, it has its origin in the tropical seas of both hemispheres, and moves toward the north. The entire body of wind, or storm, has for its path a parabolic curve. The cyclones of the Western Hemisphere originate in the West Indies, travel northwestward till they reach about 30 degrees lat. N., then curve to the northeast and continue in that direction, sometimes at some distance off the coast and sometimes on the shore, finally trending oceanward and disappearing in the vicinity of 50 degrees lat N. The diameter of the storm varies from several hundred to over a thousand miles, and its velocity is from sixty to eighty miles an hour. At no point does the air whirl in a circle, but there is a tendency of the entire body of the storm to revolve around the point of lowest barometer. As a rule the velocity of the wind increases gradually till it culminates in a fierce intensity of movement that will wreck the largest ships. In the actual center of the storm there is a dead calm. Cyclones occur most frequently between August and November. In the eastern hemisphere they form in the vicinity of the Philippine Islands, moving thence northwestward to the Asiatic coast, and then curving to the northeast over the adjacent seas and islands. They are there known as typhoons. Their origin in both hemispheres can be placed at about ten to twelve degrees north of the equator, between the belt of calms and the southern limits of the trade winds. The tornado, on the other hand, is always a land storm. Its motion is always from southwest to northeast, and its path varies from a few yards to eighty rods in width. The moving air always makes its appearance in the form of a funnel-shaped cloud, the small end drawing near to the earth, and revolves about a central, vertical axis with inconceivable rapidity and always in a right to left direction, or opposite to the movement of the hands of a watch. With scarce an exception the tornado occurs in the afternoon, just when the hottest part of the day is over. It is caused by heat, that is, by the contact of currents of low temperature from the north with those of extremely high temperature from the south. The struggle of these atmospheric forces toward an

equilibrium of temperature produces the mass of swiftly whirling air which we know as the tornado cloud. The velocity of the particles of air in this mass is so great that it is difficult to estimate it, but it is believed to be from 100 to 500 miles an hour, and is sometimes, no doubt, even greater than this. Observers note four motions of the tornado cloud; 1, the gyratory movement of its air particles; 2, the onward motion of the storm; 3, The rising and falling movement of the cloud, and 4, its oscillation or swaying from side to side. It is also noted that the force of the tornado is constant, that it does not seem to spend itself, as the phrase is, by the destruction of the strongest buildings, but the cloud disappears by going from the earth upward, evidently being acted upon by forces in the upper region of the atmosphere. Close observation, such as has been made of many tornadoes under the direction of the signal service, seems to show that electricity is not an active cause of the tornado, but is often present as an accompaniment, being generated by the exceedingly rapid motion of the air. Hail always accompanies the tornado, being formed by the same cause, that is, the rapid condensation of the moisture of southern winds by contact with cold northern currents. Lightning and thunder never attend on the tornado cloud itself, but sometimes appear in the region of other outside clouds while the tornado cloud is in motion. To conclude, we quote from the recently published work of Lieutenant Finley, of the signal service, on "Tornadoes"—to which we are indebted for facts summarized above—the following description of the formation of a tornado cloud: "Two currents of air approaching each other from opposite points will not come directly together, because of the influence of the relative motion of the earth. The mass of air coming from the south would have a greater velocity eastward than that coming from the north. Therefore instead of meeting each other in a direct line, the two currents will form an angle at their intersection, and the combination of the two masses will give rise to a rotation in a direction contrary to the hands of a watch with its face upward. These conditions account for the spiral movement of the air currents and the formation of the vortex in the tornado. The cold air from the northward will under-run the warmer air from the southward, because of the difference in the density of the two masses, and as a result will aid in the formation of the whirl."

#### CLOCKS AND WATCHES IN AMERICA.

Tell something of the early manufacture of clocks and watches in America.

ADRIAN, Mich.

Reader.

*Answer*—All timepieces were at first made by hand, and required the labor of workmen of talent and experience, as well as skill. Such workmen were found, of course, among the early settlers of this country, but no attempt was made to manufacture either clocks or watches on a large scale until a sharp Connecticut Yankee, Eli Terry, invented wooden wheels for clocks. He made the first clock with these wheels, whittling them out with a knife, in 1792. He went about the country selling these clocks, and in time had quite a large business. In 1837 Chauncey Jerome, of Massachusetts, first ap-



pled machinery to the making of metal-wheeled clocks, and quite drove wooden-wheeled clocks out of the market. The manufacture of watches by machinery, which has since become such an important business, was begun at Roxbury, Mass., in 1850, by the firm of Dennison, Howard & Curtis. Mr. Dennison had previously traveled through Europe and studied thoroughly the manner of watch-making by hand there. The business of this firm was continued at Roxbury until 1854, when it was removed to Waltham. Since that time many improvements by different makers have built up the business of watch-making in this country to immense proportions. For details of the manufacture of watches see Our Curiosity Shop book for 1886.

## GOVERNORS OF NEBRASKA.

ELK CITY, Neb.

Please give a list of all the Governors of Nebraska.

E. G. KITCHEN.

*Answer.*—The following list includes both the Territorial and State Governors:

## TERRITORIAL.

Francis Burt.....	1854
T. B. Cuming.....	1854-55
Mark W. Izard.....	1855-58
William A. Richardson.....	1858
J. Sterling Morton.....	1858-59
Samuel W. Black.....	1859-61
Alvin Saunders.....	1861-66
David Butler.....	1866-67

## STATE.

David Butler.....	1867-71
William H. James.....	1871-73
Robert W. Furnell.....	1873-75
Silas Garber.....	1875-79
Albinus Vance.....	1879-83
James W. Dawes.....	1883-87

## HOW FISHES BREATHE.

CHICAGO.

Can you explain how fishes breathe through their gills? Is it possible for a fish to be drowned?

M. MERTON.

*Answer.*—The gills of a fish are situated at the back part of the sides of the head, and consist of a number of vascular membranes which are generally in double fringe-like rows, fixed by the base only; sometimes these are feather-like, and sometimes they are mere folds of membrane attached at each end over the gill cavities. In general, there are four gills on each side, though in some fish there are more. In fishes that have bones the gills are attached to the outer edge of bony arches connected with the bone of the tongue and with the base of the skull, the connection at each end being made by intervening small bones, while the cavity containing the gills on each side of the head is covered by a bony plate with two subordinate pieces. It is by the movement of these bony plates that the water is expelled which is taken in through the mouth, and which, after passing among the gills and supplying them with air, passes out by the gill openings at the back of the head. The fish is a cold-blooded animal—that is, its temperature is very slightly above that of the water in which it lives, and it therefore needs but little oxygen to keep the blood warm enough to sustain its life. This oxygen supplied to the blood by the gills in respiration is not obtained by decomposing the water but by separating the air from it. It is therefore necessary that the water in which fish live should be supplied with air, and this is one of the direct benefits of the agitation of oceans and

lakes by winds. Fishes confined in aquariums often die for this very reason, because the water is not aerated. They consume all the oxygen in the closed vessel in which they are placed, and no more being supplied they die, and may be said to be drowned, because they perish from the same cause that occasions death by drowning in lung-breathing animals—that is, want of air.

## THE UNITED STATES FRIGATE CONSTITUTION.

EMPORIA, Kan.

Please trace the history of the United States frigate Constitution from the time that she was built, giving accounts of her various fights.

C. M. C.

*Answer.*—The frigate Constitution was built at the Boston Navy Yard in 1797, at a cost of \$302,718. Her tonnage was 1,576, and she was rated forty-four guns. For several years this vessel was engaged in the foreign service, but during 1811 was recalled, and when war was declared she was at Annapolis, engaged in shipping a new crew. She put out of harbor there July 12, 1812. On the 17th she met a British fleet of four vessels, and, being unable to cope with so many, she ran away from them. They gave chase, and pursued the frigate for sixty-four hours, but were not able in that time to get near enough to fire on her, so she escaped and ran into port at Boston July 26. After a brief time spent in filling her stores, the frigate, with Captain Hull as her commander, left Boston Aug. 2, went to the Bay of Fundy, and there captured several British vessels on their way to the St. Lawrence. Aug. 19 she fell in with a British ship, the Guerriere, at latitude 41 degrees, 40 minutes, longitude 55 degrees, 43 minutes. The British commander began firing at long range, but Captain Hull held back his principal fire till the vessels were only a few yards apart. Then pouring in his shots, their execution was terrible, and in fifteen minutes the mizenmast of the Guerriere was shot away, her main yard in slings, and her sails cut to pieces. The ships were now so near that the bowsprit of the Guerriere passed diagonally over the Constitution's quarter-deck, but such a heavy sea was running that neither crew could attempt to board the other vessel. At last the ships gradually worked around till they had separated, when a broadside from the Constitution carried away the foremast and mainmast of the other vessel, and the Guerriere rolled a defenseless hulk, at the mercy of the waves. Captain Dacres then surrendered. The British marines were taken on the American vessel and the wreck of the Guerriere was set on fire. The Constitution brought the first tidings of this victory to Boston. A handsome medal was given to Hull for the victory and he retired from command of the vessel in favor of Captain Bainbridge. Oct. 26, the Constitution and Hornet left the port of Boston together, sailing southwest. Leaving the Hornet to blockade an English vessel found in port at San Salvador, the Constitution went further south, and, off the coast of Brazil, at latitude 13 deg. 6 min. south, longitude 31 deg. west, met the English frigate Java. The battle was at short range, and the wheel of the Constitution was shot away, but the American commander managed his crippled vessel well, avoided the raking fire of his antagonist, and directed the shots so skillfully that

in a little over two hours from the beginning of the fight all the rigging and masts of the Java had been shot away, leaving her a sheer hulk. She then surrendered, and after the crew had been removed the wreck was blown up. Captain Bainbridge, on his arrival at home was, of course, loaded with honors. The Constitution now had the credit of being a "lucky" ship, and Bainbridge, having won his share of glory through connection with her, gave way, and allowed Captain Charles Stewart to take command. The vessel at this time received the nickname of "Old Ironsides." Having been well repaired, the Constitution left Boston harbor Dec. 30, 1813. She ran down toward the Barbadoes, and Feb. 14 captured and destroyed the British schooner Pictou. After making a few other prizes, and reaching the coast of Guiana, she turned homeward, on the way giving chase to a British ship, which, however, escaped, and when near home, being pursued by two frigates, from whom she got away, and anchored safe in the harbor of Marblehead, April 3. The Constitution did not cruise any more until December, 1814. Then she set sail for the Bermudas, thence to Madeira and to the Bay of Biscay. Off Cape St. Vincent, Feb. 20, 1815, she met two British vessels, the Cyane and the Levant, and after a short, sharp fight succeeded in capturing them both. This was the last engagement of "Old Ironsides," as peace had already been concluded. The vessel was used for various naval purposes until 1850, when the Naval Department proposed breaking her up and selling her timbers. This purpose was changed, however, by the public feeling aroused by Dr. Holmes' stirring poem on the subject, beginning:

"Aye, tear her battered ensign down!"

The vessel was therefore repaired and made a school-ship for naval pupils.

#### THE INCOME OF THE POPE.

CHICAGO.  
What is the income of the Pope of Rome, from what sources is it derived, and how is it used?

H. N. COURTNEY.

Answer.—There are three separate sources of the pontifical revenue. The first is the interest of a large sum left by Pope Pius IX. to the Papal treasury, the principal of this being invested in English Government funds, and the interest amounting to about \$600,000 annually. To this must be added a sum equal in amount furnished by the Peter's Pence fund, which, however, has fallen off of late years. This constitutes the ordinary budget of the Holy See as distinguished from the extraordinary budget. The latter is derived from a third source and is supplied by the receipts of the Apostolic Chancellery. The sale of titles of nobility, decorations, blessings in articulo mortis, altar privileges, private chapels, ecclesiastical titles—such are a few of the items which go to make up the extraordinary budget. It amounts to an average of \$500,000 per annum, and serves to make up the private purse of the Sovereign Pontiff, that on which he relies to exercise his generosity. It will be observed that the private budget of the Pope is thus derived, in a great measure, from the satisfaction of human vanity. The ordinary budget of the Holy See, which, as stated above, amounts to \$1,200,000 per annum, is distributed by

the major domo of the Vatican among the Cardinals residing in Rome—about \$5,000 a year each—the prelates of the Papal courts, the secretaries, the nuncios, the pontifical body-guard, etc. The Pope is very abstemious in his habits, and scarcely spends any part of his large income on himself. But he spends most generous sums in relieving the poor, in building schools, and in maintaining the Catholic press of Italy and Europe. There is another large part of Pope Leo's income, which he has never touched. This is the annual allowance of \$600,000 accorded to the Vatican under the law of Papal guarantees, passed when Victor Emanuel took possession of Rome. The annual income of this money has gone on accumulating for seventeen years, and now reaches an enormous sum.

#### THE KRAKATOA ERUPTION.

MASSENA, IOWA.  
Will Our Curiosity Shop give an account of the eruption of the Volcano of Krakatoa in 1883, and its remarkable effects?  
E. KAUFFMAN.

Answer.—The Island of Krakatoa is in the Sunda Straits, midway between Java and Sumatra, in the heart of the most active volcanic region in the world. The peak of Krakatoa, which formed the northern half of the island, is mentioned as an active volcano by some Dutch travelers who saw it in 1680, but from that time until its great outburst in 1883, there is no record of its action. In the latter part of May, 1883, it began to show signs of activity, which grew more portentous as time went on, and by the middle of August the volcano was in active eruption, throwing out showers of stones and ashes. At 6 o'clock in the afternoon of Aug. 26 loud explosions began at Krakatoa, which were audible at Batavia, eight miles distant. During the pitch-dark night following, the glare of the burning mountain reflected from the ascending column of smoke and steam was distinctly seen at Batavia, while the falling ashes were noted as far away as Cheribon, 500 miles to the east. Early on the morning of the 27th there was a gigantic explosion, heard as far away as the Andaman Islands and India, which was followed by a tremendous tidal movement on neighboring coasts, the water first receding and then returning and overwhelming the villages on the shore. Though day had dawned its light could not penetrate the pall that overhung Java and Sumatra for hundreds of miles. Abnormal atmospheric and magnetic displays were observed: compass needles rotated violently, and the barometer rose and fell many tenths of an inch in a minute. At about a quarter past 11 there came a tremendous detonation that spread consternation among the dwellers within a circle of 3,000 miles in diameter, but which is described as inaudible, from its very immensity, to human ears in its vicinity. This seemed to be the climax, but it was followed by an appalling darkness, with a downpour of mud and sand, and a tidal wave on the coasts over fifty feet high. The remarkable physical changes caused by the eruption were not known till the vicinity had been explored thoroughly some months later. It was then found that the volcano had burst, throwing one part eight miles to the north and hurling another part completely over Lang Island, seven miles to the northeast. That it was literally torn up by the roots is shown by the fact that over the



spot where the exploded mountain had been soundings found a depth of 164 fathoms. Other soundings showed great changes in the bottom of the sea in the vicinity, and islands were raised, lowered, or changed in shape. The chief damage to human life by this eruption was done by the great tidal waves, which are said to have washed away several score of villages and towns and taken 75,000 lives. The secondary effects of this eruption are no less amazing. The tidal waves driven out east and west from the narrow straits traveled across the oceans and met on the other side of the globe. Indeed, Mr. Norman Lockyer asserts that these waves crossed at the antipodes and encircled the earth no less than four times before they ceased to affect the tide gauges. A similar wave was thrown off in the atmosphere and moved in all directions. Barometrical observations taken at this time all around the globe showed this movement plainly. Lastly, strange meteorological effects that were perceived for many months afterward, lurid clouds and gorgeous sunsets, were accounted for by the presence of thousands of tons of dust in the upper atmosphere, hurled thither by the greatest natural convulsion recorded within the term of human history.

#### HOW OIL-CLOTH IS MADE.

ALGONA, Iowa.  
Describe the process of making oil-cloth.  
F. M. S.

*Answer.*—Oil-cloth for floors is made on stout hemp canvas, which is woven very wide so as to have no seams in it. This canvas is first stretched tight over a frame; then is covered with thin glue, or size, and rubbed down with pumice. This is to fill in the spaces between the threads, and make the whole very smooth. Then a coating of thick paint is spread over the surface and rubbed in with a trowel. When this is dry another thick coat is put on, and after that another, and then a coat of thin paint, laid on with a brush. All of these are of one color, and after they have been put on and dried, the pattern of the oil-cloth is printed on by means of wooden blocks. The outline of the design is cut on these blocks, and for different colors different blocks are used. Oil-cloth for table covers is made of light cloth or canvas, on which two coats, or perhaps three, of common paint are laid on, and the design is then printed in the same way that calico is printed.

#### BATTERY I, FIRST ILLINOIS ARTILLERY.

BELVIDERE, Ill.  
Give a sketch of Battery I, First Illinois Light Artillery.  
E. D. HASKINS.

*Answer.*—Battery I, of the First Artillery, was organized at Camp Douglas by Captain Edward Bouton, and mustered in Feb. 10, 1862. March 3 it moved for Benton Barracks; April 1, started for Pittsburg Landing, and took part in the battle of Shiloh. In May took part in the siege of Corinth. Later, took part in expeditions in Mississippi and Arkansas. Returned to Memphis, then went on the Tallahatchie raid, and finally went to Moscow, Tenn., for winter quarters. In June following was sent to Vicksburg, and fortified at Snyder's Bluff, on the Yazoo. Moved after the surrender and took part in Sherman's march on Jackson. Was sent with Sherman's army to Chattanooga, and took

part in the battles of Nov. 25-27. Was then moved to Ringgold, then back to Chattanooga, then to Bridgeport and Scottsboro, Ala. In March, 1864, the members of the regiment re-enlisted. Took part in the battle of Nashville, and afterward in the pursuit of Hood to Florence. The battery was then sent to Eastport, and stayed there until ordered to Chicago for muster out in July, 1865.

#### GOLD-BEATER'S SKIN.

MENTONE, D. T.  
Is there a kind of skin known as gold-beater's skin? If so, what is it, and how prepared?  
B. CHASE.

*Answer.*—Gold-beater's skin is a delicate membrane prepared from the large intestine of the ox, and used as a dressing for slight wounds, as the fabric for court-plaster, etc., but chiefly by gold-beaters. In the process by which gold is beaten out into thin leaves for gilding, the thin squares of leaf are laid between folds of the skin, and thus beaten until they are very thin. The skin is of such firm yet elastic texture that it can be beaten for months with a twelve-pound hammer without material injury. In preparing the skin, the intestine is first subjected to a partial putrefaction, by which the adhesion of the membranes is sufficiently diminished to allow them to be separated. The outer membrane is then removed, cleaned from the adhering muscular fibers, dried, beaten and pressed between paper, besides being treated with alum, isinglass, and white of egg, the object of which is to obtain the continuous membrane in a clean condition, without being weakened by the putrefaction process. The work of preparing this skin is extremely offensive, and strong disinfectants have to be continuously used. The skin is usually sold in packages containing 900 leaves, for which the intestines of 500 oxen are required.

#### HOWARD, THE PHILANTHROPIST.

OTTUMWA, Iowa.  
Give an account of Howard, the philanthropist.  
F. MOFFET.

*Answer.*—John Howard, the noted philanthropist, was born at Enfield, England, in 1726. He had been apprenticed by his father to a grocer in London, but upon the death of the elder Howard, who left a considerable fortune amassed in trade, the young man left the uncongenial business, and spent his time in travel and in the pursuit of medical and scientific studies. When about 25 years old he had a severe attack of illness, and upon his recovery showed his gratitude to his landlady who had nursed him, and who was twenty-seven years his senior, by marrying her. As the union was not a happy one, as might have been expected, it was, perhaps, fortunate that the wife died three years later. In 1756 Howard embarked for Lisbon, with the view of doing something to help the sufferers from the great earthquake. On the way he was taken prisoner by a French privateer, and the hardships which he endured while in captivity seem to have first called his attention to the sufferings of prisoners. Having been exchanged he returned to England, married again, and settled in Bedfordshire, and began his career of active philanthropy by building schools and model cottages for the peasantry. His wife died in 1765, and he then spent several years in study and travel. In 1773 he was made sheriff, and thus came to have actual

knowledge of the sufferings endured by prisoners under the very defective jail system of England. For instance, he found that many innocent persons, as well as criminals, were kept in prison for months and even years from inability to pay their fees of jail delivery. He proposed to the magistrates to have regular salaries paid to the jailers, in place of the fees collected from the prisoners. The astonished magistrates asked for a precedent for such a change, and in his effort to find one Howard visited every town in England containing a prison. He thus collected an enormous mass of information concerning prison abuses, which he embodied in a report to the House of Commons. This body gave him a vote of thanks, and immediately passed bills providing for a number of important reforms. At his own expense Howard sent copies of these laws to every jailer in the kingdom. He was soon after elected to the House of Commons, but was not allowed to take his seat because of his known sympathy with the American revolution. He never afterward entered political life, but gave his whole time to the carrying out of philanthropic reforms. He made several journeys over the continent visiting prisons and hospitals. In his journeys and labors he bore his own expenses, and risked his own life and health continually in the presence of infectious diseases. In his last journey he contracted camp fever while nursing some patients at Kherson, on the Black Sea, and died there Jan. 20, 1790.

#### HOWARD UNIVERSITY.

Give a history of the Howard University at Washington. Was it not called from Howard, the great philanthropist?

CHICAGO.

R. T. EATON.

*Answer.*—It is understood that Howard University was named from General O. O. Howard, who was one of its founders, and its first president. It was organized under a special act of Congress in 1867. It was intended for the higher education of negro students, but its laws make no distinction, as to color or sex, for pupils or teachers. The university buildings are on high ground, two miles from the business center of the city. There are nine buildings belonging to the university. Miner Hall, which will accommodate 150 students, is set apart for the young ladies; and Clark Hall, for young men, has room for over 200 students. Instruction in the university comprises collegiate, normal, theological and medical courses, with law, pharmacy, and dentistry. An industrial department has been added. The institution has a fine library of over 10,000 volumes, a museum of curiosities, with a fine collection of minerals, and a picture gallery. The Rev. W. W. Patton is now the president.

#### EARLY USE OF IRON.

When and where was iron first discovered, and when first manufactured?

RICH HILL, Mo.

G. B. THOMPSON.

*Answer.*—The Bible ascribes the discovery of working iron to Tubal Cain. The Egyptians ascribe it to one of their early mythological kings, Hephaestus, who has been identified by students with the Vulcan of Greek and Roman mythology. The actual discovery was probably made so early in the history of the human race that it can not now be accurately placed. The books of Moses mention the use of iron some eleven centuries before the

Christian era, and the Arundelian marbles fix a date for it before 1370 B. C. The Egyptians and the Assyrians made iron at a very early period of their history. In ancient tombs and ruins but recently unearthed many implements of iron are found, cooking utensils and weapons of various kinds. The Chalybes, a Scythian tribe living south and east of the Black Sea, who attained great skill in iron-working, are accredited by ancient writers with being the first to use coal in their furnaces, the inventors of steel, or hardened iron, and the discoverers of magnetic iron. Geological discoveries have shown that the discovery of the use of iron was one of the regular steps of every branch of the human race in its advance toward civilization.

#### FRENCH POLITICAL PARTIES.

AUGUSTA, Wis.

Give an outline of French political parties and tell how they are divided in the assembly. Tell how elections are conducted and define "opportunist," "reactionnaire," "intransigent," "scrutin de liste," and "scrutin d'arrondissement."

R. B. HAUTZ.

*Answer.*—Political parties in France may be roughly divided into two large groups—Republicans and Reactionnaires. Each of these, however, is divided into several smaller groups. The "Reactionnaires" are united on the common ground of opposition to the republic, and they sit together in the Assembly, forming the Right or Opposition, yet in themselves they are divided into two important parties—the Legitimists and Bonapartists. The Republicans are known as the Left and their opponents as the Right, because of the position of their seats in the Assembly with relation to the presiding officer. The Legitimists are those that favor the restoration of the royal family of the Bourbons, in the person of the Comte de Paris, to the throne of France. The Bonapartists desire to see the empire restored through one of the Bonapartes. The Right has increased its representatives in the Chamber of Deputies from 88 in the last Parliament to some 200 in that which met for the first time on Nov. 10, 1885. The Republicans, although agreed on the cardinal points of their political creed, were less united than their opponents at the poll on Oct. 4, 1885; the moderate and extreme sections vigorously opposing one another, to the consequent loss of both, and gain of the Reactionnaires, who, for electoral purposes, adopted the name of Conservatives. The present system of election in France was adopted at the last Parliamentary election in 1885. It is known as the scrutin de liste or election by departments. The previous law provided for the scrutin d'arrondissement or election by districts. That is, the members of the Assembly were formerly elected by each district, just as our Congressional representatives are chosen, but now are elected on a general ticket by departments, just as we choose our Presidential electors by States. France is divided, for administrative purposes, into eighty-seven departments, returning 568 members to the Chamber of Deputies. There are, further, three departments in Algeria, returning six members, all of whom are Republicans, besides the distant colonial possessions, which are represented in the present Parliament by ten Republicans. The number of seats allotted to each department natu-



ally varies according to its population, the territory of Belfort returning fewest members (two), and the department of the Seine—i. e., Paris, the greatest number (thirty-eight). The next largest department is that of the Nord, which is represented by twenty deputies, the remaining departments returning from three to twelve. To secure election it is indispensable that at least a fourth of the electors on the register record their votes; and return is further conditional on obtaining an absolute majority of the votes recorded. The principle of election is by universal suffrage. At the last election 202 of the members first chosen failed to secure a majority and second elections were held in every case. The party of the Left is divided into a number of factions, of which the most important are Conservative-Republicans, Opportunists, and Radicals. The Opportunists constitute the most numerous and influential of these divisions. The party was formed by Gambetta, and under his leadership gained great political importance. The name was given to the party as a term of reproach by their enemies, who declared that they had no fixed principles, but would defend any course that suited their opportunity. The party is still a strong one, numbering 120 in the Assembly, though its brilliancy and importance perished with Gambetta. The Radical party is known as the Extreme Left. It includes in its ranks a large proportion of the socialistic element in politics, though there is still another faction, small in numbers but violent in speech, known as the Intransigents, or "Irreconcilables," who are not satisfied with the republic, but wish it abolished and a purely communistic form of government put in its place.

## GREELEY AND COOPER.

HILL TOP, Kan.  
What did Horace Greeley say to cause J. Fenimore Cooper to sue him for libel? Give a brief history of the case.

G. S. HUMPHREY.

*Answer.*—In 1833 Mr. Cooper returned to his New York home, after a long stay abroad. He was said to have imbibed much aristocratic sentiment while in the Old World, and in the two books that he published soon after his return—"Homeward Bound" and "Home as Found"—there were many remarks concerning American manners and opinions, that greatly wounded the sensitive feelings of his countrymen. His neighbors in the village of Cooperstown accused him of arrogance and insolence, and he got into difficulties with them continually. A newspaper of the little town took up the quarrels, berating the novelist vigorously. Mr. Cooper then brought action for libel, and recovered judgment. Other journals now took up the cudgels against Mr. Cooper, who in his effort to punish them all, soon had a host of libel suits on foot. One of these was against the Albany *Evening Journal*, then edited by Thurlow Weed. Because of sickness in his family, Mr. Weed did not attend promptly at court when the case came up, whereupon a judgment of \$400 was entered against him. Mr. Weed sent an account of the affair to the New York *Tribune*, in which, though not abusing Mr. Cooper, the writer censured that gentleman's action in the suit, and said that "the value of Mr. Cooper's character had at last been judicially ascertained to be exactly

\$400." The article was published without Mr. Weed's name, and the novelist was highly offended at it, and brought an action of libel against Messrs. Greeley and McElrath, publishers of the *Tribune*, for its publication. Mr. Greeley defended his own case, Mr. Richard Cooper, a nephew of the novelist, was counsel on the other side, but the plaintiff himself summed the case in a long speech, in which he went over the whole ground of his previous suits, and bitterly condemned the license of the press in America. The jury returned a verdict of \$200 against the *Tribune* publishers, which they paid. Mr. Cooper brought another suit for several alleged libels in Mr. Greeley's published report of the first suit, but this time the journalist employed two able lawyers, Messrs. W. H. Seward and A. B. Conger, and their skill secured a compromise of the matter, and the case was never brought to trial.

## PERSPIRATION.

BAYNE, Kan.  
Please explain the phenomena of perspiration. its cause, action, etc. ADOLPHOS.

*Answer.*—The human body is made up for the most part of water. A man weighing 154 pounds contains about 110 pounds of water, and only forty-four pounds of dry matter. Water is therefore vitally necessary to all human existence, and is supplied in all kinds of food, as well as with liquids, and also in the atmosphere that we breathe. It is constantly being thrown off from the body, and forms a very important agent in removing decayed matter from the system. Water is removed from the system by means of the kidneys, by the lungs, and through the skin. The amount of water daily evaporated by lungs and skin, in a healthy condition of the system, is equal to about one-third of the weight of the whole food, solid and liquid, which is taken into the stomach. The skin of a full-grown man therefore exhales in twenty-four hours, in ordinary circumstances, from one and a half to two pounds of water in insensible perspiration. When, in hot weather, or in undergoing violent exertion, the perspiration becomes sensible, and instead of exhaling in a gentle moisture is thrown off in large drops of water, a much greater weight is disposed of in this way. The action of this exhalation takes place through glands. These glands are cylindrical tubes, arranged in the form of a globular coil situated in the connective tissue immediately under the third and inner layer of the skin. From each gland a small duct passes upward through the layers of the skin, and terminates in a very minute and oblique opening on the surface. The folds of the perspiratory gland are surrounded by a close network of capillary blood vessels, from which the watery and salt ingredients of the perspiration are exuded into the tube, and by capillary attraction are drawn to the surface and thrown off. It does not seem so strange that the human body can throw off nearly two pints of water daily, so gradually and so gently that it is not felt as moisture, when we remember how many glands there are and how very small each atom of moisture must be. On the back, the thighs, and legs there are about 500 perspiratory glands to the square inch of skin; on the breast, the forehead, neck, forearm, and back of the hand and foot,

about 1,000 to the square inch; and on the sole of the foot and on the palm of the hand, 2,700 in the same space. It is estimated that the number of perspiratory glands over the whole body is not less than 2,300,000, and as each tubular coil when unraveled is about one-fifteenth of an inch in length, the entire extent of tubing used to throw off the perspiration is not less than 153,000 inches, or nearly two miles and a half. A certain portion of the decaying matter of the body is thrown off through the perspiration, but the principal office of this exhalation is to regulate the temperature of the body. When the body is kept in a state of cleanliness and health, so that the circulation is regular and the perspiratory glands are always evenly but seldom abnormally active, exposure to severe cold can be safely borne. When undue exertion brings out a greater flow of perspiration than can be readily and quickly removed by evaporation, the moisture chills the skin surface, the little mouths of the sweat tubes contract, there is what we call a checking of the perspiration, which immediately produces a sensation of chilliness. We have taken cold, we say, and severe illness often results from this interference with the natural evaporation of the skin.

#### PHOTO-ENGRAVING.

Will Our Curiosity Shop give some account of the method of photo-engraving.

CONCORD, Mich.

A. M. SHOTWELL.

*Answer.*—There are several processes for this work, one of which may be outlined thus; A copper plate is covered with asphaltum, a film negative placed in contact with it, and this exposed to light in the camera. This is then covered with a mixture of olive oil and turpentine, which removes the parts acted upon by the light and leaves the lines shown as bare copper. The plate is then waxed upon the back, and then plunged into an acid bath. The acid does not affect the covered parts of the plate, but acts upon the lines, eating them away, and leaving, when the plate is subsequently cleaned, a complete engraving thereon. In this department, a few months ago, we gave an account of engraving on zinc, which is also used for the reproduction of pictures. But most of the finest processes by which the perfect reproduction of engravings, photographs, etc., is now accomplished, are secrets and closely guarded by their discoverers.

#### GENERAL JAMES B. McPHERSON.

GALLON, Ohio.

Give a sketch of the life of General James B. McPherson.

F. M. SHUMAKER.

*Answer.*—James Birdsey McPherson was born at Clyde, Ohio, Nov. 14, 1828. He graduated first in his class at West Point, in 1850. During the following year he was assistant instructor at the academy, was engaged on the defenses of New York harbor in 1854-57, and in San Francisco Bay in 1858-61. In November of 1861 he was made Aid-de-Camp to General Halleck. He was chief engineer on General Grant's staff at Fort Donelson and at Shiloh, and in May was appointed a colonel in the regular army and Brigadier General of volunteers. In the following December he was made commander of the Seventeenth Army Corps, and served under Grant in the campaign against Vicksburg. In March, 1864, he was made commander of the Army

of the Tennessee, and in this position sustained his high reputation for gallantry and military ability. In the battles before Atlanta, McPherson's division held the left of the line. July 22, in superintending the advance of his skirmish line, he received a shot in the breast, causing almost instant death. General McPherson was a man of wonderful energy and industry, and was possessed of courage and daring that almost amounted to recklessness. His death was greatly lamented by his fellow-officers.

#### MODOCS—WELSH LEGEND.

REPUBLIC, Mich.

Is there a tribe of Indians in this country called Modocs? If so, tell something about them. There is a legend in Wales that a prince named Modoc once left that country in search of the unknown land toward the West, and that the descendants of the prince and his followers yet exist as a tribe of Indians on the Pacific coast. Has this legend any basis of fact?

I. O.

*Answer.*—The Welsh legend ascribes the discovery of America to Welsh adventurers during the twelfth century, or more than 300 years before Columbus crossed the Atlantic. According to this story Prince Madoc, compelled by civil disturbances to leave his native country, sailed westward in 1170 with a small fleet, and after a voyage of some weeks landed on a continent of exuberant fertility, whose inhabitants were dark-colored savages. After some time he returned to Wales, but left behind him twenty of his crew. Then fitting a large fleet he departed again for the new land, but neither he nor any of his ships or men were ever again heard from. The connection of this legend with the name of a tribe of American Indians—the Modocs—is altogether fanciful. The Modocs were originally a part of the Klamath nation, who inhabited Northern California. They became estranged from their original tribe, however, and thus earned their name, Modocs, which means enemies. They lived, when they first became known to white men, in a district about 100x40 miles in extent, on the south shore of Lake Klamath in California. They were dull and lethargic by nature, with little expression in their heavy features, and little energy in their habits. But as enemies they were harsh, relentless, and cruel. Their houses were pits roofed with a conical structure of wooden slabs, covered with earth, and both men and women clothed themselves decently with skins. Their religion consisted of the worship of a single deity, whom they called Koomoose. They did not torture prisoners taken in war, but made slaves of them. The Modocs have been hostile to the whites ever since the very earliest days of California immigration. Repeated wars have greatly reduced the tribe, so that they now number less than two hundred in all, part of them being in the Quipaw reservation, in the Indian Territory, and part on the Klamath reservation in California.

#### EASTER ISLAND.

ETNA, Me.

Tell something about Easter Island. Where is it, and what race of people inhabits it?

J. H. WHITTEN.

*Answer.*—Easter Island is in the South Pacific, near latitude 26°, about 2,300 miles west of the coast of South America. It stands alone, and has been seldom visited. It was discovered in 1722 by



Roggeween, a Dutch navigator, and was visited in 1774 by Captain Cook. It is about eleven miles long by six miles broad, and has three large extinct volcanoes, rising to the height of 1,200 feet above the sea. The land in the valleys is fertile and well cultivated, but the supply of water upon the island is short. The inhabitants of the island—who number about 1,200—are Polynesians, of dark skin, but finely developed physical frames. They were once fiercely hostile to white men, but are now professed Christians, having been converted by some French missionaries who landed among them in 1865. Easter Island is especially remarkable for containing several hundred gigantic stone statues, chiseled with considerable skill. The largest of these are forty feet high, and measure nine feet across the shoulders. Many of them stand in the crater of the largest volcano, while others are scattered about the island. They were cut from a kind of rock which abounds in the island, and many unfinished statues are in the stone quarries. The origin of these statues is wrapped in mystery. They were certainly not made by the present race of inhabitants of the island, as these have no tools for the purpose, and no means of moving such masses. They profess to know nothing about them, and believe they were made by the gods. It has been conjectured that the island is part of a submerged continent, and that these statues were the idols of an extinct people who "worshiped in high places."

#### ASAFOTIDA.

Give the composition and the common uses of asafotida. KANKAKEE, III.  
FRANK STARK.

*Answer.*—Asafotida is a resinous gum derived from the root of a plant which grows in Central Asia. It can be thoroughly dissolved in alcohol, and by distilling the alcoholic solution, its volatile oil, in which is contained the strong disagreeable odor and taste of the substance, can be removed. Asafotida is used in Persia as a condiment for flavoring sauces and food. The leaves are eaten and the root roasted for the same purpose. In medicine it is used as an anti-spasmodic or nervous stimulant; also as an expectorant in some diseases of the respiratory organs.

#### MARCO BOZZARIS.

Give a sketch of Marco Bozzaris, the hero of modern Greece. GRAHAM, MO.  
J. KENNER.

*Answer.*—Marco Bozzaris, the noted Greek hero, was born in 1790, at Sulis, in the mountains of Epirus. His youth was spent amid the din of arms, for the Suliotcs were constantly in rebellion against the Turks, who tried to rule over them. In 1803 Sulis was taken by Ali Pasha, an Albanian who was in the Turkish service, and many of its inhabitants killed. Bozzaris, then a lad of 13, escaped to the Ionian Isles, with a number of the Suliotcs, and, the islands being ceded to the French, he served in the French army for some years. In 1820 the Suliotcs had their country restored to them, on condition of their joining Ali Pasha in a revolt against the Sultan. The insurrection soon involved all the Grecian states, and when Ali Pasha was killed in 1822 the war was successfully carried on under Bozzaris. The flower of his army fell at

Petta, July 16, 1822, and, with the remainder of his troops, he retreated to Missolonghi, which he skillfully defended. In August, 1823, a large force of Turks and Albanians were sent against him. Knowing that the fortifications of Missolonghi would not hold out against them, Bozzaris determined to gain an advantage by making a sudden attack. Accordingly, when the advance of the army, 4,000 strong, was encamped at Scutari, he attacked them by night with 1,200 men, and routed them with great slaughter, capturing the entire supplies of the camp. The triumph of this victory was saddened by the loss of the brave Bozzaris, who fell while leading on his men to the final attack.

#### NIHILISM.

Give history of nihilism in Russia, its origin, object and ultimate aims. MENDON, III.  
R. C. M.

*Answer.*—The name nihilists is sometimes applied to all persons taking part in political agitation in Russia, especially if they are avowed advocates of constitutional government, but properly it belongs only to those supposed to be acting under the direction of a secret revolutionary committee. The names nihilist and nihilism did not originate with the party, but were given to it in derision, because its members sought the destruction of all existing order and government without proposing and apparently without intending to substitute any defined scheme of organization in their place. So far as is known, these terms were first used by the Russian novelist, Turgeneff. The despotic character of the Russian government, and its efforts to check all free discussion, have only provoked political conspiracy and secret plottings against the tyranny of the existing powers. The first manifestation of the secret political societies was the insurrection of December, 1825, at the beginning of the reign of Nicholas I., which aimed at overthrowing the czardom and establishing a constitutional form of government. Though this insurrection was suppressed, those engaged in it continued to urge their views and the party gained strength. The earliest advocate of the present Russian doctrine of nihilism was Michael Bakunin, who advocated a Russian republic as early as 1847, and in 1868 founded the "International Alliance of Revolution," a secret society, whose object was to effect a popular uprising against all monarchical governments. This society was no doubt the parent of the many secret organizations that have since sprung into existence throughout Europe. Bakunin died at Geneva in 1876. Though Alexander II. introduced a much more liberal policy than any of his predecessors, it came so far short of the desires of the party of progress that the spirit of discontent seemed stimulated rather than lessened. The existence of a great revolutionary conspiracy was proved in 1877, when, after a great trial lasting eighteen months, 135 persons out of 183 arrested were found to belong to such an organization. The nihilists began to attract attention as a really formidable society in 1878, when Vera Sassulitch shot General Trepoff, chief of the secret police. She was acquitted, and this seemed to excite the entire organization to activity, and a series of outbreaks and assassinations followed, which were only checked after some time by measures of extreme severity on the part of the

government. One after another of the officials of the government were murdered, and finally, the Czar himself fell at the hands of a nihilist assassin. The doctrines and objects of the nihilists must be taken from the declarations of their leaders. Bakunin, in a speech at Geneva in 1868, announced that he was the bearer of a new gospel, whose mission was to destroy the *lie*, at the beginning of which was God. Having got rid of this belief, the next *lie* to be destroyed was *right*, a fiction invented by *might* to strengthen her power. "Our first work," he said, "must be destruction of everything as it now exists, the good and the bad, for if but an atom of this old world remains, the new will never be created." Others have asserted similar principles. From these utterances it seems plain that the increase of the nihilist movement is likely to be of little real good to the people of Russia.

#### EMERY.

CRYSTAL, Mich.  
How are the different varieties of emery made,  
and for what are they used? A. S. OLIVER.

*Answer.*—Emery is a mineral substance allied in nature to corundum. It is found, when analyzed, to be composed of alumina, oxide of iron, and silica, with a little lime. The proportions of these substances vary in different specimens, thus giving several varieties of emery, but the substance is not compounded, it occurs already formed in nature. It is usually found in masses, though it sometimes occurs disseminated through other minerals. It is a dull opaque substance, sometimes of a grayish black, sometimes of a blue color. It is prepared for use by crushing the lumps in a stamp mill, and then passing the powder through sieves of different degrees of fineness. For the most delicate uses of opticians the powder is graded by the process known to chemists as elutriation. The powder is stirred up in water, or water containing oil and gum, and allowed to subside for a number of seconds. This is done at intervals, and the water poured off each time, and as the coarsest of the powder is naturally the first and the finest the last to settle, by this method a number of finely graded sizes of powder are obtained. Emery thus prepared is used for many important purposes in the arts. It is used in cutting and polishing stone, glass, and metal. It is applied to paper, cloth, and slips of wood, by dusting powder upon these articles after they have been coated with thin glue, to be used with greater convenience in this form for polishing purposes. It is also made into cakes with beeswax, and into stone for emery wheels by mixing with clay and firing it in a furnace like earthenware. Mixed with paper pulp and fine glass and rolled into sheets it is made into covering for razor strops. The emery of commerce was for a long time brought from the Island of Naxos, in the Grecian Archipelago. The Greek Government granted a monopoly of its trade to an English merchant, who raised the price of the substance from \$40 to \$140 a ton. But when about 1847 Dr. J. Lawrence Smith, an American explorer in the employ of the Turkish Government, found deposits of the mineral at various points in Asia Minor, the monopoly was destroyed and the price of the stuff lowered. Deposits of emery have also been found in Bohemia, in the Ural Mountains, in Australia,

and in North Carolina, Georgia, and Montana. But these other deposits furnish no supply to compete with that which is brought from Naxos and Turkey.

#### HISTORY OF JERUSALEM.

WELTON, Ill.

Please give a brief history of the city of Jerusalem from the time of its founding. Tell how often it was besieged, and by whom.

READER.

*Answer.*—The earliest name of Jerusalem appears to have been Jebus, or poetically Salem, and its King in Abraham's time was Melchizedek. When the Hebrews took possession of Canaan, the city of Salem was burned, but the fortress remained in the hands of the Jebusites, till King David took it by storm and made it the capital of his kingdom. From that time it was called Jerusalem. During the reigns of David and Solomon it attained its highest degree of power. When ten of the Jewish tribes seceded under Jeroboam they made Shechem (and later Samaria) the capital of their kingdom of Israel, and Jerusalem remained the capital of the smaller but more powerful kingdom of Judah. The city was taken by Shishak, King of Egypt, in 971 B. C., was later conquered and sacked by Joash, King of Israel, and in the time of Ahaz, the King of Syria came against it with a large force, but could not take it. The city was besieged in Hezekiah's reign, by the army of Sennacherib, King of Assyria, but was saved by a sudden destruction of the invading army. After the death of Josiah, the city was tributary for some years to the King of Egypt, but was taken after repeated attempts by the Babylonians under Nebuchadnezzar in 586 and was left a heap of ruins. The work of rebuilding it began by order of King Cyrus about 538 B. C., who allowed the Jewish people that had been carried into captivity to return for this purpose. From this time Jerusalem enjoyed comparative peace for several hundred years and grew to be an important commercial city. When Alexander invaded Syria it submitted to him without resistance. After his death it belonged for a time to Egypt and in 198 B. C. passed with the rest of Judea under the rule of Syria. Antiochus the Great ruled it with mildness and justice, but the tyranny of his son, Antiochus Epiphanes, brought about the revolt, headed by the Maccabees, through which Jerusalem gained a brief independence. In 63 B. C., Pompey the Great took the city, demolished the walls and killed thousands of the people, but did not plunder it. However, nine years later Crassus robbed the temple of all its treasures. The walls were soon after rebuilt under Antipater, the Roman procurator, but when Herod came to rule over the city with the title of King, given him by the Roman Senate, he was resisted and only took possession after an obstinate siege, which was followed by the massacre of great numbers of the people. Herod improved and enlarged the city, and restored the temple on a more magnificent scale than in Solomon's time. Jerusalem is said at this time to have had a population of over 200,000. This period of wealth and prosperity was also rendered most memorable for Jerusalem by the ministry and crucifixion of Christ. About A. D. 66, the Jews, goaded to desperation by the tyranny of the Romans, revolted, garrisoned Jerusalem, and defeated a Roman army sent



against them. This was the beginning of the disastrous war which ended with the destruction of the city. It was taken by Titus, in the year 70, after a long siege, all the inhabitants were massacred, or made prisoners, and the entire city left a heap of ruins. The Emperor Hadrian built on the site of Jerusalem a Roman city, under the name of Elia Capitolina, with a temple of Jupiter, and Jews were forbidden to enter the city under pain of death. Under Constantine it was made a place of pilgrimage for Christians, as the Emperor's mother, Helena, had with much pains located the various sites of events in the history of Christ. The Emperor Julian, on the contrary, not only allowed the Jews to return to their city, but also made an attempt, which ended in failure, to rebuild their temple. In 614 the Persian Emperor Chosroes invaded the Roman empire. The Jews joined his army, and after conquering the northern part of Palestine, the united forces laid siege to and took Jerusalem. The Jews wreaked vengeance on the Christians for what they had been forced to endure, and 20,000 people were massacred. The Persians held rule in the city for fourteen years; it was then taken by the Romans again, but in 636 the Caliph Omar besieged it. After four months the city capitulated. It was under the rule of the Caliphs for 400 years, until the Seljuk Turks in 1077 invaded Syria and made it a province of their empire. Christian pilgrims had for many years kept up the practice of visiting the tomb of Christ, as the Caliphs did not interfere with their devotions any farther than by exacting a small tribute from each visitor. But the cruelties practiced upon the pilgrims by the Turks were many, and report of them soon roused all Europe to a pitch of indignation, and brought about that series of holy wars, which for a time restored the holy sepulcher into Christian hands. Jerusalem was stormed and taken July 15, 1099, and 50,000 Moslems were slaughtered by their wrathful Christian foes. The new sovereignty was precariously maintained until 1187, when it fell before the power of Saladin. Jerusalem, after a siege of twelve days, surrendered. Saladin, however, did not put his captives to death, but contented himself with expelling them from the city. Jerusalem passed into the hands of the Franks by treaty in 1229, was retaken by the Moslems in 1239, once more restored in 1243, and finally conquered in 1244 by a horde of Kharesmian Turks. In 1517 Palestine was conquered by Sultan Selim I., and since then has been under the rule of the Ottoman Empire, except for a brief period—from 1832 to 1840, when it was in the hands of Mahomet Ali, Pasha of Egypt, and his son Ibrahim had his seat of government at Jerusalem.

#### GALLEY SLAVES.

KIN MUNDY, III.

Give an account of the galley slaves of the middle ages and later times. How long is it since the employment of these slaves ceased? W. F. W.

*Answer.*—The galley, a long, low, narrow vessel of war, having sails, but chiefly propelled by rows of oars on each side, was used as a part of the fleet of all maritime nations from the earliest historic times down to near the close of the eighteenth century. The vessel drew but little water and was especially convenient for coast service; but the ad-

vancement in the art of navigation, and especially the improvements in gunnery, at last put an end to this class of ships, which, it was said, "had dominated the maritime world for over 3,000 years." In the most ancient times to row in the galleys was considered honorable; but as the work was very laborious and it was difficult to procure voluntary recruits for it, the ancient nations used to put their prisoners of war to this service. Then it became customary to condemn criminals to the work. In the middle ages the galley rowers were convicts and infidel prisoners, who were chained to the benches. The Turks retaliated, and put captured Christians to the same labor. In France, Spain, and the Italian republics during the sixteenth and seventeenth centuries, the galleys were used as the means of punishment for all criminals, even those who had committed capital crimes were thus utilized. Heretics were particularly sought out for this purpose, and in France vagrants, beggars, poachers, etc., were employed, and, as even all these did not suffice to man the benches, slaves were bought from the Turks, negroes were brought from Guinea, and Indians were kidnapped in the New World. Galley slaves were subjected to the greatest indignities and cruelties. Their heads and faces were shaved, they were always chained to their benches, and they rowed entirely naked, being only allowed to wear clothing when in port. They were seldom released, even when their time of service was accomplished. Henry IV. ordered the captains of all galleys to retain prisoners for six years, even although condemned for a shorter time, and under Louis XIV. galley slaves sentenced for only two or three years were often retained for fifteen years, and more. Criminals preferred mutilation and even death to labor in the galleys. The galleys in France were abolished in 1748. They had been gradually going out of use in that and other countries for some years.

#### MEDÆA.—ZENOBIA.

VASHAN ISLAND, W. T.

Tell something about the two characters, Medæa and Zenobia. F. A. C.

*Answer.*—Medæa was a character in Greek mythology. She was the daughter of Æetes, King of Colchis, and like her father, was learned in magic and sorcery. When Jason and his band of Argonauts came to Colchis in search of the golden fleece which had been left in charge of Æetes, Medæa fell in love with the young hero. The precious fleece was hung up in a grove, where it was guarded by a pair of bulls that breathed fire and a dragon that never slept. Jason was told that he could not have the fleece until he had yoked the bulls, and plowed the ground by their help, and sowed therein the teeth of the dragon. Jason performed these difficult tasks by the help of Medæa's enchantments. She gave him an ointment, which rubbed over his body protected him from the fiery breath of the bulls, and aided him to kill the dragon. Then when a throng of armed men sprung from the earth where the dragon's teeth were sown, she told him to throw a stone among them so they would begin to fight one another, while Jason could escape with the fleece. Jason hastened to his ship and Medæa went with him, and took with her her young brother Absyrtus. King

*Æetes* pursued the *Argo* in a swift vessel, but as he gained upon that ship, *Medea* killed her brother *Absyrtus*, and threw his limbs one by one into the sea. *Æetes* stopped to pick them up, and so the *Argonauts* got away. *Medea* went to Greece with *Jason* and became his wife, but after some years he deserted her for *Creusa*, daughter of the King of Corinth. In revenge *Medea* killed the two children that she had borne to *Jason*, and sent to *Creusa* a poisoned dress, which burst into flame when the sunlight fell upon it, and burned the young bride to death. *Medea* then fled to Athens, where she married King *Ægeus*, and became quite famous for her wisdom and knowledge of sorcery. The fable says further that she had a son *Medus*, who was the founder of the kingdom of the *Medes*.

*Zenobia* was a character of actual history. She was the daughter of an Arab chief, and for her great beauty was chosen as the wife of *Odenathus*, King of *Palmyra*. She is said to have been remarkable for her learning as well as her beauty, and to have been able to speak and write in several languages. When her husband died, in 266 A. D., she took the title of Queen of the East, and for five years ruled her kingdom with great prudence and success. Then she was involved in a war with the Romans, and after suffering severe defeats she was besieged in *Palmyra*. She defended herself with much courage until she found the city could not hold out any longer, when she tried to escape and was taken prisoner. She was made to grace the triumph of the Emperor *Aurelian*, and was carried through the streets of Rome adorned with jewels and golden chains. *Aurelian* gave her a handsome residence near *Tivoli*, and she lived there in comfort and luxury all the rest of her life.

#### LEGAL HOLIDAYS.

OTTUMWA, Iowa.

Please give a table showing the legal holidays in all the states.

R. M.

*Answer*.—Jan. 1, New Year's Day, is a legal holiday in all the States except Arkansas, Delaware, Georgia, Kentucky, Maine, Massachusetts, New Hampshire, Rhode Island, and North and South Carolina. February 22, or Washington's birthday, in all the States except Alabama, Arkansas, Florida, Illinois, Indiana, Iowa, Kansas, Maine, Missouri, North Carolina, Ohio, Oregon, Tennessee and Texas. January 8, the anniversary of the battle of New Orleans, February 12, the anniversary of the birth of Abraham Lincoln, and March 4, the firemen's anniversary, are legal holidays in Louisiana. May 30, or Decoration Day, is a legal holiday only in Colorado, Connecticut, Maine, Michigan, New Hampshire, New Jersey, New York, Pennsylvania, Rhode Island, Vermont and Wisconsin. July 4, Independence Day, and December 25, Christmas Day, are legal holidays in all the States and Territories. Thanksgiving Day and public fast-days, appointed by the President of the United States, are legal holidays whenever proclaimed, throughout the Union. Such days are also legal holidays in any such States wherein they may be set apart by proclamation of the Governor. Days appointed for general elections, State and National, are legal holidays in California, Maine, Missouri, New Jersey, New York, Oregon, South Carolina and Wisconsin. Good Friday is a legal holiday in Florida, Louisiana,

Minnesota and Pennsylvania. Shrove Tuesday, or the day before the beginning of Lent, is a legal holiday in Louisiana and in the cities of Mobile, Montgomery and Selma, Ala. Memorial Day, April 20, is a legal holiday in Georgia. March 2, the anniversary of the independence of Texas, and April 21, the anniversary of the battle of San Jacinto, are legal holidays in Texas.

#### POISONS.

Why does poison kill, and why will it not kill if taken in large quantities?

AMBOY, Ill.  
A. E. FULLER.

*Answer*.—Poisons are of many different kinds, and act upon the animal organism in different ways. It is by no means true that all poisons may be taken in large quantities with safety; indeed this is only true of a few substances, and the reason of this is that the large dose produces a violent effort of nature to throw it off, which in some cases is successful, before absorption can take place. Poisons are said to have both local and remote effects, and it may happen that though some cause intervenes to prevent fatal action locally, the poison may have remote effects that kill no less unfailingly. Poisons are usually arranged in four different classes; as corrosive poisons, irritant poisons, neurotic poisons and gaseous poisons. The typical poison of the class of corrosives is the soluble chloride of mercury, known as corrosive sublimate, which produces in an extreme degree the symptoms of corrosive poisoning, the burning and destruction of the soft tissues of the mouth and stomach; also concentrated mineral acids, sulphuric, nitric and hydrochloric; oxalic acid; the alkalies, potash, soda and ammonia and their carbonates, the metallic salts and carbolic acid. Irritant poisons are of two kinds, metallic irritants and vegetable irritants. Their especial effect is to inflame the alimentary canal, and they often produce also peculiar effects on the nervous system. The action of an irritant is similar to that of a corrosive, only slower in its development; indeed nearly all the corrosives, if diluted, may be classed as irritants. They produce intense burning pain in the stomach, attended by nausea, vomiting and great thirst, followed by profuse diarrhoea, and if nature is not able fully to eliminate the deadly substance by means of the vomiting and purging, inflammatory fever sets in, followed by nervous collapse, and death ensues. The typical specific irritant poison is arsenic. In the same class are the salts of lead, the soluble salts of copper, zinc and barium, the chromates, crude phosphorus, and a large number of vegetable extracts. In the large class of neurotics, we find prussic acid, which acts by paralyzing the circulation; opium, which produces, if the dose taken is large enough, a state of profound coma, by congesting the blood vessels of the brain; strychnine, which acts directly upon the ganglionic center at the base of the brain, producing violent spasms, and ultimately nerve paralysis; and aconite, which first paralyzes the nerves of motion and sensation, rapidly extending to the heart and producing death from syncope. Belladonna and other vegetable substances are also included in this class, substances that in small doses are valuable medicines, but in large doses are active poisons. Gaseous poisons have varied effects, some of them acting as irri-



tants, others causing specific symptoms, apparently in consequence of their forming chemical compounds with the blood; others producing death by checking respiration, as when the lungs are filled with an irrespirable gas. Besides this classified list, there are substances which are poisonous to the blood though not to the stomach. There are also instances where through certain conditions of the system a substance usually regarded as innocent may act as a poison. Foods, vegetables, fruit, and meat in decay form substances that are highly poisonous.

#### THE TREATY OF 1783.

CULBERTSON, Neb.

Give an account of the treaty of peace between the United States and Great Britain at the close of the revolutionary war. When, where, and by whom were its provisions adopted? M. W. D.

*Answer.*—After the surrender of Lord Cornwallis, the British Premier, Lord North, resigned, and a ministry favorable to peace with the American colonies was formed. In May, 1782, Sir Henry Clinton, British general in America, was recalled, and command of the forces here was given into the hands of Sir Guy Carleton. All hostile demonstrations were now brought to an end, and the war was, in effect, closed. In the summer, Parliament sent Richard Oswald to Paris to confer with Franklin and Jay, American ambassadors, with regard to terms of peace. John Adams and Henry Laurens soon after joined the conference. Nov. 30, 1782, preliminary articles of peace were agreed to and signed on the part of Great Britain by Oswald, and by Franklin, Adams, Jay, and Laurens on behalf of the United States. The following April the terms were ratified by Congress, but it was not until Nov. 3, 1783, that a final treaty was effected. On that day the ambassadors of Holland, Spain, England, France and the United States, in a solemn conference at Paris, agreed to and signed the articles of a permanent peace. The terms of the treaty provided for (1) a full and complete recognition of the independence of the United States; (2) the recession by Great Britain of Florida to Spain; (3) the surrender of all the remaining territory east of the Mississippi and south of the great lakes to the United States; (4) the free navigation of the Mississippi and the lakes by American vessels; (5) the concession of mutual rights in the Newfoundland fisheries, and (6) the retention by Great Britain of Canada and Nova Scotia, with the exclusive control of the St. Lawrence. In the fall of 1783 the British troops evacuated New York.

#### BENTON'S "EXPUNGING RESOLUTION."

HUNTER, Ill.  
What is meant by Benton's "expunging resolution?" W. H. THORNTON.

*Answer.*—The high-handed manner in which President Jackson disposed of the United States Bank—for a full account of which see elsewhere in this volume—gave great offense to Congress. As the President's friends in that body were too numerous, however, to make it at all possible to procure a vote for impeachment, the Senate determined to inflict an extra-judicial condemnation on the action of the Executive. Therefore, after an excited debate of three months, it resolved, March 28, 1834, by a vote of 26 to 20, "That the President, in the late executive proceedings in relation to the

public revenue has assumed upon himself authority and power not conferred by the Constitution and laws, but in derogation of both." This resolution made the President quite indignant, and in a special message, April 15, he protested against it on the ground that it accused him of perjury in violating his oath of office, and was thus an indirect and illegal method of impeachment, a condemnation against which he had no opportunity to defend himself. The Senate refused to receive the protest or place it on record on the journal. Senator Benton, of Missouri, at once gave notice that he would bring forward, every year, a resolution to expunge the vote of censure. After a struggle of three years, the friends of the President carried the expunging resolution, and the resolution of censure was marked around on the journal with broad black lines, and the memorandum "Expunged by order of the Senate this 16th day of January, 1837." It was argued against the adoption of this expunging act that it violated the constitutional direction to the Senate to "keep" a journal of its proceedings, but it was asserted, in favor of it, that the original resolution was extra-legislative, and had no proper place on the journal, and therefore ought to be stricken out.

#### CALLS FOR TROOPS.

CHICAGO, Ill.  
Please give the number of troops in each call, and term of enlistment during the war. J. H. SCOTT.

*Answer.*—April 15, 1861, President Lincoln issued his proclamation for 75,000 militia for three months. Under this call 91,816 men were furnished. May 3, 1861, another call for troops was issued, which was confirmed by act of Congress in the following August. Under this call and under acts approved July 22 and 25, 1861, 500,000 men were required, and there were furnished for six months, 2,715 men; for one year, 9,147 men; for two years, 30,950 men; and for three years, 657,868 men; making a total of 700,680. Special authority was given to the States of New York, Illinois, and Indiana, in May and June, 1862, to furnish men for three months' service. Under this authority New York furnished 8,588 men; Indiana, 1,723, and Illinois, 4,696—a total of 15,007 men. Another call was made July 2, 1862, for 300,000 men, for three years, and the various States and Territories furnished a total of 421,465 men. The call of Aug. 4, 1862, was for 300,000 militia for nine months' service. To this but 87,588 men responded. June 15, 1863, the President issued a proclamation calling for militia for six months' service. This was to fill out the last call, and no quotas were made, but a total of 16,361 men were raised in the seven States of Massachusetts, Pennsylvania, Maryland, West Virginia, Ohio, Indiana, and Missouri, and the troops from the last named State, though credited under this call, were not furnished until November, 1864. Oct. 17, 1863, and Feb. 1, 1864, calls were made for 500,000 men in the aggregate for three years. There were furnished and credited under these calls a total of 369,380 men, a large number of them raised by draft. Under the call of March 14, 1864, for 200,000 men for three years' service, there were credited to the States 299,193 men. Between April 23 and July 18, 1864, there were mustered into the

United States service for 100 days 83,612 militia. July 18, 1864, 500,000 more men were called for. This call was reduced by the excess of credits on previous calls, and under it the States were credited with 386,461 men furnished. Under the call of Dec. 19, 1864, for 300,000 men, there were furnished 212,212 men. The necessity for more men ceased to exist before most of the States had completed their quotas under this call.

Besides the foregoing there were also furnished volunteers and militia to the total of 182,357 men by the Southern States and the Western Territories, on whom no quotas were made after the first call. The total number of men called for by the President and furnished by and credited to the States and Territories was 2,859,132, in addition to which 92,656 in the colored troops enlisted without being credited to States, and probably 20,000 thus enlisted in the regular army. A large number of men who enlisted for a period of less than ninety days are also not included in the above estimate. Their exact number is not ascertainable.

#### WATERHOUSE'S BATTERY.

GOSHEN, Ind.  
Please give a sketch of the Waterhouse Battery during the war.  
J. H. VESEY.

*Answer.*—Waterhouse's Battery, otherwise Battery E, of the First Illinois Light Artillery, was organized at Camp Douglas during the fall of 1861, and was mustered into service Dec. 19 of the same year, with Allen C. Waterhouse as Captain. It was sent to Cairo in February, there took boat for Pittsburgh Landing, and received its baptism of fire in the terrible battle of Shiloh, losing there seventeen in killed and wounded. Was also in the fight at Corinth, and then went into camp near Memphis. Was with Sherman's Oxford expedition in November, but after this was in no important action till it joined the Vicksburg expedition in the spring of 1864, and took an active part in the siege. It was also with Sherman in his expedition against Jackson, and after that went into camp near Vicksburg until November, when it went back to Tennessee. It spent much of the time in the following year in pursuit of General Forrest, and on July 14 attacked that officer in Tupelo and won the engagement. In September, it went over into Arkansas, thence up into Missouri after General Price, whom it pursued to the western boundary of the State. Thence it returned to St. Louis, and took boat for Nashville, and was with General Thomas during the siege of that city, and the destruction of Hood's army.

#### INDIAN CORN.

HOMER, Neb.  
Will Our Curiosity Shop tell us the origin of corn?  
S. A. COMBS.

*Answer.*—Like many other members of the vast and valuable vegetable kingdom, Indian corn or maize has long attracted the attention of writers, and its origin has been the occasion of much discussion. It was long ago the custom of certain classes of authors to attribute almost every plant and animal to Eastern origin, probably on the theory that it was in that hemisphere the Garden of Eden was believed to have been placed, and many things, all the way from potatoes to turkeys, were

traced across the sea. Alphonse de Candolle, the eminent botanist, thoroughly examined the subject thirty years ago, and states that "maize is of American origin, and was not introduced into the old world until after the discovery of the new." The early discoverers found it in cultivation by the Indians of America all the way from New England to Chili. There are evidences that it was raised in South America long before the conquest of Peru, as varieties not at present cultivated in that country have been discovered there in tombs which antedate the Incas, just as grain has been found in Egypt stored with mummies 3,000 years old, recently brought forth from their resting-places.

#### THE ASTROLABE.

MAURICE, Mo.  
Give the date of the invention of the astrolabe, and explain its use, etc.  
F. S. BUTCHER.

*Answer.*—The astrolabe, which is from two Greek words meaning "to take the stars," was the name given by the ancient Greeks to any circular instrument for observing the stars. Circular rings, arranged as in the armillary sphere, were used for this purpose. Professor Newcomb describes it thus: This instrument consisted of a combination of three circles, one of which could be set in the plane of the equator or the ecliptic; that is, an arm moving around this circle would always point toward some part of the equator or the ecliptic, according to the way the instrument was set. The circle in question, being divided into degrees, served the purpose of measuring the angular distance of any two bodies in or near the ecliptic, as the sun and moon, or a star and planet. It was by such measures that Hipparchus and Ptolemy were able to determine the larger inequalities in the motions of the sun, moon, and planets. This instrument is now used only as an aid to instruction in astronomy, and the celestial globe has in this respect very generally taken its place. The exact date when this instrument was invented or first used is lost in the mists of antiquity.

#### THE SITE OF KASKASKIA.

MEMPHIS, Ill.  
Was the Kaskaskia visited by LaFayette in 1824 the same village which was first settled by the French, and which derives its name from the tribe of Indians settled there? Give the difference between the present site of this village and that shown on the old maps.  
S. D. PEET.

*Answer.*—The annals of Father Marquette's voyage on the Mississippi in 1673 mention that on his return, by way of the Illinois River, he found on the latter stream a village of the Illinois tribe, containing seventy-four cabins, which was called Kaskaskia. This village was located, according to the understanding of historical writers, on the prairie south of where is now the village of Utica, in LaSalle County. The inhabitants of this village received the voyager kindly, and obtained from him a promise that he would return and instruct them. He kept this promise faithfully, for, although he had been ill for over a year in Green Bay, he set out again in the autumn of 1674 to visit the Indians. After a rude wintering in Chicago, he reached the village April 18, 1675. He there established a mission, to which he gave the name of the Immaculate Conception of the Blessed Virgin, and was able for a time to teach the people, but, overcome



by failing health, he attempted to return to his Northern mission at St. Ignace, and died on the journey. There is evidence that this mission remained at the point mentioned, on the Illinois River, until 1700. The traveler St. Cosme visited it in 1699, and this voyager and La Sœur in 1700 both went down the Mississippi and passed the present site of Kaskaskia, but made no mention of any village or town at that point. In September, 1700, Father James Gravier, on his way to the Mississippi, stopped at an Illinois mission, believed to be the one that Marquette founded. Here he found the inhabitants of the village all prepared for a migration southward to the Mississippi, where they would be nearer their French friends, and less in danger from the warlike proclivities of the Iroquois tribes. The move was to be made under the direction of the priest of the mission, Father Marest. Gravier marched four days with the moving company, and then went forward with several Frenchmen to continue his voyage down the Mississippi. The Indians with Marest, we may presume, halted upon the peninsula between the Kaskaskia and Mississippi Rivers, since there are extant letters of Father Marest, written a few years later, which prove him to have been then stationed at the site of the present Kaskaskia, in charge of the mission of the Immaculate Conception, and the parish records of the old town show that he died and was buried there. There has been no other Kaskaskia known, since the beginning of the eighteenth century, save this one, situated on the peninsula between the Kaskaskia and Mississippi Rivers.

#### THE POPULATION OF THE WORLD.

**Can Our Curiosity Shop give the number of human beings on the globe and how they are distributed; also what proportion of the entire number are still savages?**

**Answer.**—The human family now living on the earth consists of about 1,450,000,000 individuals; not less than this number and probably more. They are so distributed over the earth's surface that there are now no parts of any size which are still uninhabited. In Asia, where there is little doubt the human race first existed, there are now approximately about 800,000,000, an average for the entire continent of 120 to the square mile. The cheerless and thinly populated steppes of Siberia reduce the average of population for this continent, which in some parts is the most closely packed quarter of the globe. Thus, throughout Hindostan there is an average of 172 persons to the square mile, and in China proper each square mile represents a population of 226. The population of Europe is about 350,000,000, averaging 100 to the square mile, not so crowded as in Asia, but everywhere dense, and overpopulated at all central points. Africa has an estimated population of some 210,000,000 or about eighteen to the square mile. But this can be a mere approximation only, as so much of the continent is still unexplored. America has a population estimated at about 105,000,000, relatively thinly scattered, and averaging altogether not more than seven to the square mile. On all the islands of the oceans there are probably 10,000,000 of inhabitants. The white people of the human race are estimated at about 550,000,000, the blacks at some 250,000,000;

the rest are of intermediate color. Of the entire race some 500,000,000 are well clothed, that is comfortably and entirely; 700,000,000 are partly clothed, and some 250,000,000 are practically naked. Some 500,000,000 may be said to live in houses partly furnished with the appointments of civilization, 800,000,000 live in huts or caves with no attempt at furnishing them with any luxuries or scarcely conveniences, 260,000,000 and more have nothing that can be called a home. Fully three-fifths of the race, therefore, lie below the line which the civilization of the Anglo-Saxon would fix as the lowest limit at which deprivation and discomfort can be endured. Of course the above is a division by races, and takes no account of the great needy class in cities of civilized countries.

#### PUBLIC LANDS BEFORE 1860.

**Will Our Curiosity Shop give some account of legislation concerning public lands prior to 1860?**

DOUGLAS, Minn.

H. MILLER.

**Answer.**—The treaty of 1783 declared the territory of the United States to extend westward from the Atlantic Ocean to the Mississippi. A large part of this land was claimed by certain of the States, who contended that their original grants gave them the territory inland to the western boundary of the country. But when the confederation was formed it was decided to cede all this territory to Congress, and this was accordingly done. There were numbers of claims on these lands, and Congress created eight boards of commissioners to examine into and settle these. But land not claimed was to be disposed of without delay, and Congress in 1785 drew up an ordinance directing the Secretary of War to draw by lot certain townships in the surveyed portion for bounties to the soldiers of the Continental army and the remainder was to be drawn by lot in the name of the Western States, to be sold by the officers of the Treasury at public sale for not less than \$1 per acre. This measure, however, was a failure, and it was intimated that the States which had any lands of their own to dispose of took pains to make it inoperative. Meanwhile, settlers began to make entries on public lands without authority, and the Government was obliged to resort to force to drive them off. A company of United States troops was kept going up and down the Ohio River from the Pennsylvania line to Cincinnati from 1784 to 1786, burning all the cabins and laying down and burning the fences of these "squatters." Often this operation had to be repeated several times to drive away the determined pioneers. In 1787 the price of public land was reduced to 66¢ cents per acre, and during the next year the regulation for drawing the land by States was repeated, and the Treasury Department, which then had charge of the sale of public lands, was empowered to sell them in any part of the United States at pleasure. The low price attracted settlers, and large tracts for settlement were purchased by associations of colonists, but the States had also much land for sale, and they eagerly pushed these in the market, underbidding the government to check western immigration, and the Spaniards holding land in Illinois offered farms without charge to actual settlers. After the meeting of the first Congress under the Constitution, the matter was all referred to

Hamilton, who, in July, 1790, submitted to the House of Representatives a plan for the disposal of the public territory. Congress, however, was very slow to act in the matter, and neither adopted Hamilton's plan nor framed any other. In 1796 the present system of surveying lands was in substance adopted, and provision was made for the public sale of lands in sections one mile square at a price not less than \$2 per acre. In 1800 land offices and land registers were established, and important changes were made in the provisions of the land laws that governed the terms of payment. The lands were to be sold at not less than \$2 per acre, but only a fourth part of the purchase money was required at the time, and the payment of the balance was to be spread over three years. In case full payment was not made within one year after the last instalment had become due, the lands were to be sold, or to revert to the United States. The natural result of the scheme was the piling up of an enormous debt, which the Government never could collect, and from 1809 to 1824 hardly a year passed without the passage of a "relief act" by Congress to suspend or mitigate the operations of the law in particular instances or to relieve settlers from their indebtedness. In 1820 a law was passed abolishing the credit system and authorizing the selling of land in half-quarter sections, and making the minimum price \$1.25 per acre. This caused great dissatisfaction on the part of the States, since as all lands were at the same minimum price the best lands were taken up first and large tracts of inferior lands were left, which bore no share, as public lands, of State or local taxation. In 1824 Benton introduced into Congress a bill for granting pre-emption rights to actual settlers and for graduating the price of lands, but it was rejected. The States were now becoming very eager to effect internal improvements, and regarded the existence of large tracts of public land within their limits as a hindrance, and began to clamor for the restoration of these lands. Schemes without number were now concocted for the disposal of the public lands, and in the session of 1827-28 Congress actually gave away to States and individuals—largely on the plea of internal improvements—no less than 2,300,000 acres of public land, and the suggestion was seriously made to restore all the public lands in the States to the State governments. This was strongly opposed, however, and many warm debates were carried on in Congress for several years on the public land question. These were in a measure checked by the fever for speculation in public lands which raged from 1834 till it precipitated the crash of 1837, but were renewed with even greater ardor when the proposition came up to have the General Government assume the debts of the States which had lost heavily in the speculative era. The plan of giving the public lands to the States was again thrust forward and was advocated by President Tyler in his first message, but though a number of bills were brought before Congress proposing such a distribution, none actually became laws, except one providing for a gift of land to new States, which was passed in 1841, as part of the first pre-emption law. The cession of public lands

to railroads on a large scale was begun in 1850, and has since led to the disposal of a very large proportion of the public lands. About 1852 a homestead law, which was warmly advocated by the free soil Democracy, became a National question. Several bills passed one house of Congress, but failed in the other. In 1860 a homestead bill actually passed, but was vetoed by President Buchanan on the plea that its provisions were not fair to all classes concerned. It was not until 1862 that the homestead law, as we have it to-day, was adopted.

#### THE FACULTY OF SPEECH IN THE BRAIN.

CHICAGO.  
Describe where the faculty of speech is located in the brain, if known.  
W. C. COOPER.

*Answer.*—It was not until after much study and investigation that scientists regarded this question as at all settled. In 1825, Bouillaud, a French physician, affirmed that the frontal lobes of the brain were the parts principally concerned with speech. He had collected 114 observations of disease of the frontal lobes, accompanied by loss or defect of speech, and upon these he founded the assertion that these lobes were "the organs for the formation and recollection of words, or the principal signs which represent our ideas." However, in 1833, another physician of equal celebrity contested Bouillaud's assertion, and supported his view by mentioning fourteen cases where speech had been lost, when the disease was found, not in the frontal, but the parietal or occipital lobes. In 1836 Dr. Marc Dax called attention to the much greater frequency of loss of speech with paralysis of the right, rather than of the left side. Now the paralysis of the nerves of the right side of the body indicates an affection of the left side of the brain, and Dr. Dax concluded that the loss of memory of words was always connected with the lesions of the left half of the brain. He brought forward 140 cases to sustain his view; it was generally accepted, and scientists rested contented with it. In 1861, however, a great advance was made by Dr. Broca, who, while he agreed with Dr. Dax that the left hemisphere of the brain was the one principally concerned with articulate speech, precisely defined the seat of lesion in every case of aphasia, or loss of speech, as "the posterior part of the third frontal convolution of the left hemisphere." This view, which Dr. Broca had to admit he had founded upon investigation of but a small number of cases, was at first received with great surprise and skepticism. It was thought to be most improbable that so important a faculty as that of speech should depend upon the perfect condition of but one comparatively small portion of only one of the two cerebral hemispheres. Yet, observations in great number have since been made, and these have all so far attested the accuracy of Broca's theory that physicians now generally admit that in a case of genuine aphasia the probability is that the disease will be found to involve the posterior part of the third frontal gyrus on the left side, or else the white substance immediately adjoining this part. There are, of course, a limited number of exceptional cases. For instance, there have been instances of lost speech where the lesion was found to exist, not in the left hemisphere, as above indicated, but in the corresponding part of the right hemisphere. And, curiously, in the most of these



cases the persons have been left-handed, showing that the normal condition of the brain lobes did not exist with them. So that the conclusion reached is that "the motor incitations sufficing to call the articulatory centers into activity during speech are accustomed, in the large majority of cases, to emerge from the third frontal gyrus on the left side; though in a small minority of persons it may happen that the effective motor stimuli are wont to pass off instead from the right frontal gyrus." It has sometimes been found, also, that after the habitual outgoing channels of the left side have been injured so that speech has been lost, the route for the stimuli from the corresponding part of the right side has been opened by nature, and the power of speech has been after a time regained.

## TIPPECANOE AND TYLER TOO.

CHICAGO, ILL.

Give a history of the famous song of "Tippecanoe and Tyler Too," tell by whom, and under what circumstances it was written, and give the words of the song.

READER.

*Answer.*—This famous campaign song was written by Mr. A. C. Ross, of Zanesville, Ohio, and the following are the particulars of its origin: The great campaign of 1840 began very early in the year. Times have been very dull since the panic of 1837, prices were low, there was little employment for laboring men, and there was an idea prevalent that a change of administration would help matters very much. The great desire for a change and the strong belief in its beneficent effects are shown by the fact that during the campaign grain dealers at Cincinnati advertised to pay 45 cents a bushel for corn if Van Buren was elected, and 60 cents if Harrison was elected. A monster political meeting in Columbus, Ohio, Feb. 22, 1840, may be said to have set the ball rolling in that State. A number of Tippecanoe clubs were formed throughout the State, one in particular at Zanesville, which held very enthusiastic meetings and composed a number of campaign songs. Still, the song to strike the popular heart had not been written. At one meeting, in discussing the subject of songs, a friend said to Mr. Ross that the tune of "Little Pigs," a popular and well-known air of the day, would give just the right chorus for a campaign song. Mr. Ross took up the idea, and the next day, in church, according to his own statement, he blocked out the entire song during the sermon. He completed it during the following week. The chorus as he first wrote it was:

"Van, Van, you're a nice little man"—

but he did not like this, and cudgelled his brains for several days to think of a different form. On Saturday night when he went to the club meeting he told the other members that he had written a song, but that he did not like one line of it. A friend asked what this was, and Ross repeated it. "Thunder!" replied the other: "make it 'Van's a used-up man,'" and so the song was complete, and the club were delighted with it. The next week there was a political rally in the court-house at Zanesville, and Ross led the glee club with his song. It was the right song at last. It fairly electrified the people, was greeted with cheers, yells, and encores, and the next day the chorus was heard on the street corners, in the work-shops, all over the town. In September Mr. Ross went to New York to purchase goods. While

there he attended a political meeting in Lafayette Hall. During the interval of waiting for the speakers, songs were sung, and finally, having run through their list, the managers called for songs from any one who could sing. Ross, who was standing near the door, said: "If I could get on the platform I could sing a song for you." Immediately he was picked up bodily and carried over the heads of the audience to the platform. "Who are you?" shouted the crowd, as he stood up before them. "A Buckeye, from the Buckeye State," was the reply. The audience then gave three cheers for the Buckeye State, and then Ross, begging the people to keep quiet through three or four verses, began his song. But before the fourth verse was reached the enthusiasm of the audience was perfectly uncontrollable. They shouted and yelled with delight, and, standing up, joined en masse in the chorus. After the meeting the streets fairly rang with the chorus:

"Van, Van, is a used-up man."

We can not take up the space necessary to give all the words of the song, which had, when first written, a dozen stanzas or more, and additional verses were added to fit the occasion at nearly every gathering. A few stanzas will show the caliber of the song. We can not, of course, now understand the enthusiasm which found utterance through these words and electrified crowds, and so can not fully appreciate the force of the lines, which have little ring and rhythm, and read tame enough to-day. Moreover, we have considerably improved the quality of the campaign song since these words were written:

What has caused this great commotion, motion,  
motion,

Our country through?

It is the ball that's rolling on,

For Tippecanoe and Tyler too,

For Tippecanoe and Tyler too.

And with them we'll beat little Van, Van,

Van, oh, he's a used up man,

And with them we'll beat little Van.

Like the moving of mighty waters, waters, waters,

On it will go,

And in its course will clear the way

For Tippecanoe and Tyler too,

For Tippecanoe and Tyler too,

And with them we'll beat, etc., etc.

See the Locofocos' standard tottering, tottering,  
tottering,

Down it must go,

And in its place we'll raise the flag

Of Tippecanoe and Tyler too.

Repeat and chorus, And with them, etc., etc.

WILLIAM WILBERFORCE.

MR. VERNON, Dak.

Give a sketch of Wilberforce, the emancipationist.

C. C. BRAS.

*Answer.*—William Wilberforce was born in Hull, England, Aug. 24, 1759. He was educated at Cambridge, and elected to Parliament in 1780, where he held a seat for forty-five years. One of the first important reforms that he introduced was a plan for purifying county elections by establishing a registry of freeholders and holding the poll in several places at once. This measure was incorporated in the reform bill of 1832. In 1787 he gave notice

in Parliament of his intention to call the attention of the House to the abolition of the slave trade, but in consequence of ill-health he did not bring in his bill until 1791. He continued to press the measure until 1807, when he finally secured its adoption in both houses. He next agitated the question of negro emancipation in the colonies, and continued it until his retirement, but the emancipation act was not passed until the year before his death. He died July 29, 1833. He published some religious works and a number of essays and pamphlets. He was a very charitable man, giving away nearly all his income. He was buried in Westminster Abbey, and a statue was erected there to his memory.

#### THE BATTLE OF THE BOYNE.

Give a history of the battle fought on the river Boyne, in Ireland, July 1, 1690, and the causes which led to this battle.

ONEIDA, Kan.

C. SHINN.

*Answer.*—When William of Orange succeeded to the English throne by the bloodless revolution of 1688 (for full account of this see *Our Curiosity Shop* book for 1885), the lord deputy of Ireland was the Earl of Tyrconnel, a most ardent champion of the Roman Catholics. Unwilling to give his allegiance to a Protestant sovereign, he entered into negotiations with the French to aid in the reinstatement of James, and invited that exiled sovereign to return and place himself at the head of his loyal subjects in Ireland. James landed at Kinsale March 12, 1689, and was received with wild demonstrations of joy. He brought with him 1,200 Englishmen in the pay of France, 100 French officers, and a small navy. He called a parliament, which confiscated all the English property in the country, and provided for an issue of debased coin to give the currency needed to carry on the war with England. These ill-advised measures were not approved by the king, but they were carried out, and resulted in doing the royal cause in Ireland much harm. The only towns in Ireland that had declared for King William were Londonderry and Enniskillen. The first named was besieged by the king's army, but after having been surrounded for 105 days, during which time the inhabitants were reduced to the utmost straits for food, it was relieved by English vessels, July 30, 1689. On the same day, Lord Mountcashel, James' most able general, was routed by the Protestants at Enniskillen, he himself being wounded and taken prisoner. In August, General Schomberg landed with 10,000 men to uphold the cause of William, took the town of Carrickfergus after a brief siege, treating the inhabitants with great cruelty. There was no more fighting during 1689, but, in the following year, William, having secured a vote of £1,200,000 from Parliament, came over to take command of his forces in Ireland. He reached Carrickfergus June 1, 1690. He had then, with Schomberg's troops, about 36,000 men, a large proportion of them Dutch and Germans. On his approach, the Irish army retired to the south bank of the Boyne, which is steep and hilly. James had less than 30,000 men, but he counted much on the natural strength of his position. June 30, both armies were in presence on either bank of the river, and the next morning James drew up his troops in two lines, his left covered by a morass,

while in his rear was the village of Dunmore, and three miles farther on the narrow pass of Duleek. King William ranged his army in three columns—the center, led by the Duke of Schomberg; the right, under young Count Schomberg, while the left was commanded by William himself. The right wing was first sent to cross the river by the bridge of Slane, some miles higher up, to march against and seize Duleek Pass, and thus cut off the Irish retreat. The French allies under Langon were sent to oppose this force, leaving only the Irish to withstand William. The elder Schomberg with the center forded the river, and fell upon the Irish army. The infantry fled with scarcely a blow, but the cavalry resisted the attack bravely. The gallant Schomberg fell while rallying his troops. At this time William, who, with his left wing, composed entirely of cavalry, had forced the passage of the river near Drogheda, came up and turned the tide. The Irish cavalry retreated slowly, fighting as they went, but their brave leader, Richard Hamilton, was taken prisoner, and they were wholly overcome. The French near Duleek had successfully resisted young Schomberg's attack, but the bands of infantry, fleeing through the pass, showed that the battle for the royalists had been wholly lost. James had hastened from the field with the first of the fugitives and made the best of his way to Dublin. Having virtually no army left, he hastened back to France with what speed he could, landing at Brét July 9. The loss of life in the battle of the Boyne was very small considering the importance of the engagement. The Irish lost about 1,500, chiefly cavalry, while the losses of King William's army did not aggregate over 500.

#### NEEDLES AND PINS.

MINNEAPOLIS, Minn.

Tell something of the history of the manufacture of needles and pins, especially in the United States.

N. W. C.

*Answer.*—Needles were no doubt contemporaneous with the very beginnings of civilization, as they were necessary for the fashioning of even the rudest skin garments. In their earliest form they were probably only strong thorns or splinters of wood, bone or stone, for puncturing holes through which to draw the thread. The next step was to make an eye in the splinter, that it might carry the thread at the same time that it pierced the skin; and some very finely finished and polished needles made of splints of bone have been found in prehistoric remains. Bronze needles have been found in Egyptian tombs that must have been made several thousand years before the Christian era, and similar implements are known to have been in use by the Chinese, Hindoos, Chaldeans, Assyrians, and other ancient nations at very early periods in their history. The steel needle is believed to have been first made in Spain. It is known that these needles were manufactured at several places in Europe as early as the fourteenth century. In the reign of Queen Elizabeth, a German came to England and taught the art of making fine Spanish needles, but for many years the art was kept as the secret of a few persons. Great improvements were made in this manufacture during the seventeenth and eighteenth centuries, and now the English needles largely supply the world. They are principally made at Redditch, near Birmingham, and neigh-



boring villages, where over 10,000 persons are employed in the work. There are some needles of good quality made in the United States, but they are of little importance compared to the imported needles. Pins are also of very ancient manufacture. They were made at first of ivory, bone, or wood splints, but bronze pins are found in Egyptian tombs, and also those of silver and gold. The ancient Romans had metal pins also, and so had other nations. They were made with ornamented heads, and from one to eight inches long. The small pin, as we know it, was a more modern invention. In England the manufacture of pins was established about the middle of the thirteenth century, for in 1433 we find a statute was passed prohibiting the importation of foreign pins in the interest of home manufactures. Brass pins were brought from France in 1540, and were said to have been first used by Catherine Howard, Queen of Henry VIII. In Gloucester the business of pin-making was begun in 1626, and soon became of great importance. It was established in London in 1636, and later in Birmingham, which became the chief seat of this and other manufacturing operations. In the United States no effort was made at pin-making until the war of 1812, when the interruption of commerce had raised the price of these useful little articles to \$1 a paper. At the old State prison, in what was then called Greenwich village—now a part of New York City—the first attempts in pin-making were tried, and similar attempts were made in Bellevue Almshouse in 1820, but both trials were given up as failures. Meanwhile, one Lemuel W. Wright of Massachusetts had invented some machinery to cheapen and improve pin manufacture. Not finding a sufficient opening for his plan in this country, he took his machinery to London and had it patented there in 1824. The first attempts with these machines did not succeed, but by means of later improvements success was achieved, and solid-headed pins were put on the market about 1833. In 1832 machines made by John I. Howe, of New York, were patented in the United States. These were the first self-acting machines that really succeeded. At first they made the wire head, then the solid head. The Howe Pin Company was established at Birmingham, Conn., in 1838. Another large factory was established at Poughkeepsie, N. Y., about the same time, and this was finally consolidated with the American Pin Company, of Waterbury, Mass., which still continues to carry on the manufacture on an enormous scale.

#### TO MAKE CLOTH WATERPROOF.

Give a recipe for making duck or drilling waterproof.  
OUGH, Neb.  
C. F. L.

*Answer.*—There have been various devices for rendering cloth waterproof without the use of india-rubber. The most successful of these, no doubt, is the Stenhouse patent. This consists of the application of paraffine combined with drying oil. Paraffine was first used alone, but it was found to harden and break off from the cloth after a time. When drying oil was added, however, even in a very small quantity, it was found that the two substances, by the absorption of oxygen, became converted into a tenacious substance very like resin.

To apply this the paraffine is melted with drying oil, and then cast into blocks. The composition can then be applied to fabrics by rubbing them over with a block of it, either cold or gently warmed. On the melted mixture may be applied with a brush and the cloth then passed through hot rollers in order to cover its entire substance perfectly. This application makes cloth very repellant to water though still pervious to air.

#### ÆNEAS AND THE TROJANS.

RAPID CITY, D. T.  
Tell whether the Trojans emigrated after the fall of Troy, and something of their later history.  
J. TURTY.

*Answer.*—According to tradition, which is the only authority we have concerning the history of Troy and the Trojans, the only persons who escaped massacre by the Greeks on the fall of the city were Æneas and Antenor and their families. One tradition says that Æneas remained in Troas and ruled over the remnant of people, subsequently building a new Troy, which fell many years later from an invasion of the Phrygians. But the best known tradition is that embodied in the poem of Virgil, entitled "The Æneid." According to this, the second year after the fall of Troy Æneas and his small band of followers set sail, with a newly built fleet of twenty vessels, and visited first the country of Thrace, and then the shores of Sicily. From the latter island he embarked for Italy, but was driven by a storm on the coast of Africa. He resided at the court of Queen Dido, of Carthage, for some time, then again set sail for Italy, and after many dangers and adventures at last cast anchor in the harbor of Cumæ. From this point he proceeded along the shore and entered the mouth of the Tiber. After a war with the neighboring natives, in which he proved successful, he allied himself with a native race, the Laurentes, married Lavinia, the daughter of their king, Latinus, and built a city which he called Lavinium. The Trojans and native inhabitants of Latium became one people under the common name of Latini. The flourishing state of the new community excited the envy of neighboring tribes, and they united, under the leadership of the Etrurians, to destroy these interlopers. In the war which followed, the Latini were successful, but they lost their heroic leader, Æneas. One account says that he fell in battle, another, that he was drowned in the river Numicus. Divine honors were paid to him after his death, and the Romans in later years regarded him as having taken a place among the deities, partly because of his achievements, and partly because tradition said that he was the son of Venus. The son of Æneas, Ascanius, founded the city of Alba Longa on the Alban Mount, and there the descendants of the Trojan hero held sway for 300 years, until a quarrel arose between two princes, Numitor and Amulius, and one was dispossessed by the other. Rhea Silvia, daughter of Numitor, the vanquished chief, was detained by her uncle and forced to take the vows of a vestal virgin. She was wooed, however, secretly by the god Mars, and became the mother of twins. She was buried alive, and the infants were put into a basket on the shore of the Tiber, to be carried away by the tide. But a she-wolf, coming to the river to drink, saw the infants, and carried them away to her den, where she

sucked them, and kept them alive. They were found by a herdsman, who took them home, and his wife nursed and cared for them, giving them the names Romulus and Remus. These two youths ultimately overthrew their cruel uncle, restored their father to his rights, founded the city of Rome, and became the progenitors of the great Roman nation. This is the Roman legend. Less legendary importance attaches to the history of Antenor, whom one story makes the founder of the city of Patavium in Sicily, while another says that he built a town on the subsequent site of Venice.

#### THE POOR SINNER'S BELL.

I have read of a bell in some city of Europe, called "the poor sinner's bell." Where is this bell, and why does it bear this singular name?

READER.

*Answer.*—The bell referred to is in the city of Breslau, in the Province of Silesia, Prussia. It hangs there in the tower of St. Mary Magdalene's Church. It was cast, according to the historic records of the town, July 17, 1386, and the story which gave it its singular name is as follows: There was a bell-founder of great skill in the city of Breslau, in the latter part of the fourteenth century. He had undertaken the making of a church bell which he meant should be the finest he had ever made. When the metal was melted and nearly ready for casting, the founder withdrew for a few moments, leaving a boy to watch the furnace, and bidding him not to meddle with the catch that secured the seething metal in the caldron. But the boy did not regard the caution, and then, terrified at seeing the metal begin to flow into the mold he called to the bell founder for help. The man rushed in, and seeing, as he thought, his work of weeks undone and his masterpiece ruined, he struck the boy a blow that killed him on the spot. But when the metal had cooled and the mold was opened the bell was found to be an exquisite work, perfect in finish and of marvelous sweetness of tone. When the man came to his senses and remembered his crime he went without hesitation and gave himself up to the magistrates. He was tried and condemned to death, and the story is that on the day of his execution the bell was rung to call a mass to pray for the unhappy man's soul. Hence the title of "the poor sinner's bell."

#### AN INGLOUS COLUMBUS.

MADRID, IOWA.  
Is there any proof that Hwai Shan visited the American continent in early times? Give facts on which this idea is founded. C. J. LINDBERG.

*Answer.*—The claim that the Chinese were the first discoverers of the western continent has been upheld by several historians, and all the evidence for and against the truth of this early discovery has been well summarized by Edward P. Vining, of Chicago, in his volume "An Inglorious Columbus." This book shows that the visit of Hwai Shan to the western coast of America, in the fifth century, was not only possible, but highly probable. In the first place, ethnologists have long admitted the identity of origin of the Asiatic and native American races. This continent must have been peopled, originally, by wanderers from Asia, and hence the possibility of voyaging from one continent to the other, even in the small and crude water craft used in early times, can not be doubted. Hwai Shan was a Bud-

dhist priest who lived in the fifth century. It is not known whether he was a native of China, or of one of the northern provinces of India, but he seems to have settled in China. It is thought that he took his famous voyage in company with a number of other Buddhist priests, and there is no doubt that the object of their journey was to carry the tidings of their religion to other lands. Chinese historical records say that in the first year of the Tsi dynasty (i. e., in the year 499 A. D.) this traveler brought to China the story of "the country of Fu-sang." Mr. Vining concludes, from a thorough examination of the matter, that the country which Hwai Shan had visited and called by the name of Fu-sang was Mexico. This belief he substantiates by showing that Hwai Shan's descriptions of the people of Fu-sang, their manners and customs, agree very closely with what is known to us of the early inhabitants of Mexico. Further, he finds that in Mexico there still exists a tradition, founded upon Aztec records, of the visit of priests from the western land. This tradition describes the peculiar appearance of the travelers, the object of their mission, and the doctrines that they taught. Mr. Vining finds that the details of Hwai Shan's description agree so well with Mexico that it is inconceivable that they could have been told except as a result of a visit to that country. In a word, he makes out a very good claim on the part of this hitherto "inglorious Columbus" to the honor of being regarded as the first explorer from the eastern world to visit the American continent.

#### CARBOLIC ACID.

HUNTLY, ILL.

From what is carbolic acid manufactured? Tell something concerning its various uses, etc.

W. A. WRIGHTMAN.

*Answer.*—Carbolic acid was first distilled from coal tar in 1834 by the chemist Runge. It is still obtained from coal tar, but more largely now, because more cheaply, from petroleum. Creosote had been first obtained about two years before the discovery of carbolic acid, and for some time there was an assumption among chemists that the two substances were the same, but the application of strict tests soon showed them to be essentially different. Carbolic acid was found to have many important properties; the one, no doubt, that brought it most generally into use was its powerful antiseptic quality. It was found to immediately check the process of putrefaction in organic matter and render decay impossible in any substance subjected to contact with it. It thus came speedily into use as an application in surgery, especially in the case of ulcers, festering wounds or gangrenous sores. It is also used to some extent in medicine, having been found to have some excellent properties, when used in diluted form and in combination, though in a pure state it is a most virulent poison. Carbolic acid is made from coal tar, from salicylic acid, and from coal oil. We give the process of making it from the last-named substance as the one most frequently used. The crude coal oil, or petroleum, is distilled in a retort furnished with a thermometer, and the portion which passes over when the heat ranges between 300 and 400 degrees Fahr. is collected apart and mixed with a hot saturated solution of caustic



potassa. After this has stood for some time, a semi-crystalline, pasty mass forms, with some liquid on top; this liquid is drawn off, and the pasty stuff below is stirred with a small quantity of water until it is dissolved. In the solution thus obtained, carbonate of potassa settles to the bottom as a dense liquid and is drawn off; hydrochloric acid is then added to it, and carbolic acid in the form of a solution rises to the top. Chloride of calcium is then added to this to remove water, and the whole is then purified by distillation, and the portion left by distilling off the pure carbolic acid is subjected to cold and yields crystals of carbolic acid, which must be dried and put away from the air. Carbolic acid is used very lavishly by some surgeons, being applied as a lotion and with dressings of gauze or cotton wool previously prepared with the acid. But it has been found that the application of too much carbolic acid to an open sore results in absorption of the poison by the blood, sometimes to a fatal degree. For this reason this substance should only be used as a dressing for wounds and sores in the form directed by an intelligent physician. Carbolic acid has also an important use in the preparation of tar colors for painting and dyeing.

#### OPIMUM IN CHINA—THE OPIMUM WAR.

Give a history of the introduction of opium into China, and the war it caused.

ST. JOHN, Kan.  
E. M. CAMLET.

*Answer.*—It is said that opium was first introduced into China in the latter part of the thirteenth century, probably by the Arabs, though some writers think that it might have been supplied by the Dutch traders, as they are known to have purchased the drug from India long before the establishment of the East India Company. It appears to have been used as a medicine in China for many years before the opium trade proper began. Previous to the middle of the eighteenth century, however, it was imported in comparatively small quantities as a remedy for dysentery, diarrhea, and fevers, and was usually brought from India by junks as a return cargo. In the year 1757 the monopoly of opium cultivation, which had been in the hands of the Great Mogul of Bengal, by the victory of Lord Clive at Plassey passed into the control of the East India Company. The Portuguese traders at this time purchased the opium in India and sent it to China, and the annual export rarely exceeded 200 chests. In 1773 the East India Company took this export under its own charge, and by 1776 the annual export reached 1,000 chests, and 4,054 chests in 1790. Meanwhile the Chinese government was doing all that it could to stop this traffic and check the increasing use of the dangerous drug. The emperor forbade its importation in 1796, and strenuous laws were passed against opium-smoking, but still the trade went on, and by 1830 had reached an importation of 16,877 chests yearly. In 1834 severer laws against the trade were passed, and government officials waged open war upon the opium ships. In 1836 a British commissioner was sent to Canton to try and compromise matters, but as the government was in earnest and would not be satisfied with anything short of the absolute stoppage of the traffic, little was accomplished. March 18, 1839, the Chinese authorities ordered the seizure of all the opium in the hands of English merchants in Canton;

resistance to this order caused riots, and on March 27 Captain Elliott, the British commissioner, ordered all British subjects to surrender all the opium in their hands, promising to them the full value of it. April 3, 20,283 chests of opium of 143½ pounds each were handed over to the mandarins and were by them destroyed, a sufficient proof that they were in earnest in their desire to suppress the traffic. The intelligence of these seizures was received with great indignation in England, and when word came that the Chinese emperor had passed an edict, Jan. 4, 1840, forbidding all trade and intercourse with England forever, the British government immediately declared a state of war to exist. A British fleet was sent out, which soon captured Chusan. In the following year the Bogue Forts fell, and the Chinese agreed to cede Hong Kong to the British and pay them an indemnity of \$6,000,000. Canton was taken in May, and ransomed with a similar indemnity; other cities also fell, and finally, when the city of Nankin was threatened, in August, the Chinese authorities sued for peace. A treaty was signed in August, 1842, with the following conditions: 1. Lasting peace and friendship between the two empires. 2. China to pay \$21,000,000. 3. Canton, Amoy, Foochoofoo, Ning-po, and Shanghai to be thrown open to the British, and consuls to reside at these cities. 4. Hong Kong to be ceded in perpetuity to the British. 5. British prisoners to be unconditionally released, and Chinese who had been in British service to escape punishment. The increase of the opium trade since that time has been very great, in spite of frequent protests from the Chinese government. In 1880, 12,911,866 pounds were imported.

#### FORTY-FOURTH ILLINOIS INFANTRY.

Give a brief history of the Forty-fourth Illinois Infantry.

MANCHESTER, Ill.  
S. B. MERCHANT.

*Answer.*—The Forty-fourth Illinois Infantry was organized in August, 1861, at Camp Ellsworth, Chicago. It was mustered in Sept. 13, and the next day started for Benton Barracks, where it was armed and sent on to Jefferson City, thence sent to Sedalia, and attached to General Sigel's division. It marched to Springfield in October, but arrived too late to take part in the battle there. It subsequently moved to Rolla, where it went into camp for the winter. Its first battle field experience was at Pea Ridge, March 5 and 7. In May, was sent to Pittsburg Landing, to reinforce the troops besieging Corinth. In August was among the troops sent northward to protect Cincinnati from an invasion of guerrillas. Oct. 1 it started on the memorable campaign against Bragg and was in General Sheridan's division at the battle of Perryville. Was moving from one point to another, as needed, until the battle of Stone River, in which it took part and lost heavily. It remained in camp at Murfreesboro until June 26, 1863, when it again marched to meet the enemy, and was engaged in several hot skirmishes. Was in the bloody battle of Chickamauga, and at Chattanooga was one of the foremost regiments in the charge on Mission Ridge. After the battles of Chattanooga the regiment was sent to Knoxville, and went into camp near there. In January the men re-enlisted, went home for veteran furlough

in March, and rejoined their comrades in the field in April. In May began the movement on Atlanta. The Forty-fourth shared in nearly all the engagements of this campaign, and, later, was in the battles at Franklin and Nashville. Was stationed at various points in Tennessee until June, when it went down the river to New Orleans, then went to Texas, remained encamped on the La Placido River until Sept. 25, 1865, when it was mustered out, and sent home.

#### PITCH, TAR, AND TURPENTINE.

INDEPENDENCE, Kan.

Tell how pitch, tar, and turpentine are made.

J. MCKINLAY.

*Answer.*—Turpentine is an oily, resinous substance flowing from the pine and other coniferous trees. An excavation which has a capacity of about three pints is made in the trunk of the tree, and in this the exuded juice accumulates. It becomes stiff very soon on exposure to the air, and is taken from the tree, washed with warm water, then heated and purified by straining through straw filters. When this crude product is distilled with water the oil of turpentine is removed, and the residue left is the resin of commerce. The different cone-bearing trees furnish different grades and kinds of turpentine. Tar is obtained from pinewood by the process of charring. The wood is packed in kilns or pits, or may be laid in mounds and covered closely with ashes. Fire is then applied and the wood slowly carbonized. The tar as formed trickles down into a gutter beneath the wood and is conveyed thence by pipes into proper tanks. Pitch is the residuum obtained by boiling tar in an open iron pot, or in a still, until the volatile and liquid portion is driven off. It is soft and sticky when warm, but becomes solid and brittle when cold. For use it is mixed with a small portion of oil to render it less brittle.

#### THE LICK OBSERVATORY.

OTTAWA, Ill.

Give description and history of the Lick Observatory, California.

R. M. G.

*Answer.*—This observatory was founded in January, 1877, in pursuance of a deed of trust made by Mr. James Lick, of San Francisco, Sept. 21, 1875. The trustees were authorized to expend \$700,000 in building an observatory and equipping it with a telescope "superior to and more powerful than any telescope ever yet made," the surplus, if any, to go toward the endowment of the observatory, which was to become the property of the University of California. The site of the observatory was selected by Professor Edward S. Holden, on the summit of Mt. Hamilton, and to test its suitability for the purpose the trustees had a temporary observatory made there, and authorized Professor Burnham, of Chicago, to make observations there. This gentleman reported the atmospheric and other conditions of the point eminently suited for the purpose. The land was granted by the United States, and Santa Clara County, in which the peak is situated, had an excellent road constructed, at a cost of \$78,000, from the valley to the top of the mountain. The observatory was first used though still incomplete, in noting the transit of Mercury, Nov. 7, 1881. The telescopes were made by Alvin Clark & Sons, Cambridgeport, Mass. The smaller of these, of twelve-inch aper-

ture, was placed in position in 1881. The larger one, of thirty-six inches, was completed in 1886. The lenses of this telescope are the largest and most perfect ever made, and their manufacture required the utmost skill. To exemplify the perfect accuracy sought, the following description is given of the manner in which the infinitesimal measurements required in grinding were attained: A gas jet was placed before a mirror which sent the rays of light through a telescope to the great lens, thus magnifying the rays. The magnified light, passing through the great lens, was still further immensely magnified, and, after having passed through this lens, it was observed through a second telescope and thus further magnified. In this way the least failure of the great lens to concentrate perfectly was detected and there was also determined the amount of glass in it at any given point that had to be ground off in order to secure a perfect focus. Thus a measurement of the 2,000,000th part of an inch was obtained.

#### NINETIETH ILLINOIS INFANTRY.

CHICAGO, Ill.

Would like a brief history of the Ninetieth Illinois Infantry.

J. E. MARTIN.

*Answer.*—The Ninetieth regiment of Illinois Volunteer Infantry was mustered into service Sept. 7, 1862, at Chicago. It was sent forward to Cairo November 27, and thence proceeded to join Grant's army and took part in a fight at Holly Springs. Soon after was sent to join the troops in the rear of Vicksburg, and after the fall of that city, the regiment shared in Sherman's Jackson campaign. Was in camp near Vicksburg until September, when it was sent to join the troops before Chattanooga. It took part in the battle of Mission Ridge, losing heavily in killed and wounded. Its Colonel, the gallant O'Meara, was killed there. In 1864 the regiment joined in the movement on Atlanta, and shared in all the engagements of this campaign. It went through to the sea with Sherman, to Washington for the grand review, and in June came home for discharge.

#### THE ABERRATION OF LIGHT.

CARTERSVILLE, Ill.

Please explain the phenomenon called the "Aberration of Light."

W. F. KERSTEB.

*Answer.*—What is known to astronomers as the aberration of light is the alteration of apparent position in a heavenly body, occasioned by the fact that the observer is carried along by the earth's motion, and to the fact that the velocity of the earth's motion is so great that it can be compared to the velocity of light. Were the motion of the earth so slow that it could not be compared to the velocity of light, then the phenomenon of the aberration would be so slight it would not be appreciable to our vision. But as this motion is, in fact, very swift, it enters as a factor into the cause of the phenomenon. To illustrate: If, in a rainstorm, when the drops were falling perpendicularly on the earth's surface, a person were standing on the platform of a rapidly moving railroad car, the drops would strike him at an angle deviating from the perpendicular in proportion to the swiftness of his motion, and the direction of the deviation would always be toward that in which he was moving. The degree of deviation in the case of light has been carefully calculated. Taking the length of



the earth's yearly orbit in round numbers at 600,000,000, and the length of the year at 31,536,981 seconds, the velocity of the earth is nearly 192 miles per second, and light being transmitted at the rate of 192,000 miles per second, it is clear that it travels about 10,000 times faster than the earth. Had the earth a velocity equal to that of light the angle of the perpendicular ray would be changed to its half, or 45 degrees, therefore a velocity of only 1-10,000 would change the angle approximately 1-10,000 of 45 degrees, or about 16 seconds. Calculated more closely by trigonometry, this deviation is nearly 20 seconds. All stars, therefore, observed at right angles to the earth's motion, must appear displaced to an amount of 20 seconds. During one-half of the year this aberration is observed in one direction, and during the other half of the year, when the earth is moving the opposite way, the aberration is observed to be on the other side, so that all fixed stars appear to have a yearly movement in ellipses of about 40 seconds diameter, all caused by the aberration of light.

#### FREE METHODIST CHURCH.

MINNEAPOLIS, Kan.

Give a brief history of the Free Methodist Church, its origin, doctrines, and numbers.

W. F. ECKART.

*Answer.*—The Free Methodist Church was formed in 1860, in Western New York. Two preachers who had been expelled from the Genesee Conference, were chiefly concerned, with their friends, in the formation of the new sect. The Free Methodists do not have bishops, but instead elect a Superintendent, whose term of office is four years, otherwise they copy quite closely the discipline and also the theology of the parent church. They are noticeable, however, for their zeal for the restoration of the simple practices of primitive Methodism. They insist on congregational singing, excluding all instrumental music, also on plainness of dress and living, on extemporaneous preaching, on free seats in the congregation, and they believe that the aim of all should be to attain absolute Christian holiness. They cling with especial tenacity to the "holiness" doctrine, which holds that a perfectly sinless condition is attainable in this life. This church had, by the reports of 1886, 263 ministers and 13,045 members.

#### THIRTY-THIRD ILLINOIS INFANTRY.

LEADVILLE, Col.

Give a history of the Thirty-third Illinois Volunteers.

JOSEPH KENDRICK.

*Answer.*—The Thirty-third Illinois Infantry was organized at Camp Butler, Ill., in September, 1861, by Colonel Charles E. Hovey, and in a few days moved south to Ironton, where it remained during the winter. In the following March the regiment went with General Steele's command into Arkansas, at Batesville, joined General Curtis' army, and thence went on to Helena, where it was encamped for several months. During the fall and winter it was encamped at various points in Missouri and Arkansas. In March, 1863, it embarked for Milliken's Bend, La., to join Grant's expedition against Vicksburg. It participated in the battles of Port Gibson, Champion Hills, Black River Bridge, assault and siege of Vicksburg and the siege of Jackson. In the terrible charge on the entrenchments, May 22, six companies of the regiment took part,

losing fully one-third of their number in killed and wounded. In August the regiment went to New Orleans, and in October took part in the Bayou Teche Expedition. Later, it was sent on to Texas, and had a share in the capture of Fort Esperanza. In January the regiment re-enlisted, and in March went home on veteran furlough. Went back to New Orleans in April, and during the summer and fall was scattered along the railroad to Brashear City, as guard, with regimental headquarters at Terre Bonne. March 2, 1865, on its way to join the Sixteenth Army Corps, its train was thrown from the track near Boutte Station, nine men killed, and seventy-two more or less injured. The regiment embarked on the 18th to join the Mobile expedition, in which it took active part. After the surrender of Mobile it was sent to Montgomery, then to Selma, Ala., thence to Meridian, Miss., and finally to Vicksburg, where it remained until mustered out Nov. 24, 1865. The Thirty-third was known as the "Normal" regiment, because Colonel Hovey had been president of the Illinois State Normal School, near Bloomington, resigning his position to raise the regiment; and nearly an entire company of the regiment was made up of teachers and students from this school.

#### PRIVATE PENSION BILLS.

AUGUSTA, Ill.

How many private pension bills has President Cleveland vetoed, and how many has he approved? Can you tell how many similar pension acts were approved by previous Presidents?

R. HARDY.

*Answer.*—An actual count of the statutes shows that during his two terms President Grant approved 435 private pension bills; President Hayes, while in office, approved 393 similar acts; Garfield and Arthur approved 736, while President Cleveland, up to the close of the last session of Congress, had approved 863 acts of the same character. Mr. Cleveland had also vetoed 123 private pension acts, in addition to his veto of the dependent pension bill.

#### HOW THE OBELISK WAS MOVED.

BBLOIT, Wis.

Tell us how Cleopatra's Needle was brought over from Egypt, and how it was handled?

T. J. BELDIN.

*Answer.*—The work of moving the great Egyptian obelisk from Alexandria to New York was managed by Commander H. H. Gorringe, of the United States Navy. This officer reached Alexandria Oct. 16, 1879, and at once began work with one hundred Arabs, who completed the excavation of the obelisk's pedestal by removing 1,730 cubic yards of earth in about twenty days. The machinery for lowering the monolith was then attached, and the block was laid in a horizontal position. Within the foundation and steps of the pedestal were found stones and implements engraved with emblematic designs, and some delay was caused in order that these might be taken up very carefully to be placed in exactly the same position in the pedestal when re-erected in New York. The obelisk was removed to the wharf and upon the steamer waiting for it by means of cannon balls rolling in metal grooves. The shaft, pedestal, and steps of the obelisk were moved separately, the entire mass weighing 1,470 tons. The steamer bearing this freight left Alexandria, June 12, 1880, and arrived at Staten Island, July 20. The iron tracks and cannon balls were adjusted after some delay.

and on these the monolith was disembarked Sept. 16. Next the rise and fall of the tide was utilized to float it up the North River and land it at the foot of Ninety-sixth street, whence it was moved by steam power on tracks with rollers, along Tenth avenue and across Eighty-sixth street to Central Park. The track was two miles long, and was inclined, the upper part of it being laid on trestle-work, in order to bring the shaft, when it was to be raised, at a proper height above the pedestal. Pulleys, chains, and ropes were then attached, and the signal being given, the great mass was rapidly and gently raised, and in a short time stood firmly upon the base which had been previously securely put in place.

#### THE TAJ MAHAL.

Give a full account of the Taj Mahal in India.  
IRVINGTON, Cal.  
H. C. INGRAM.

*Answer.*—The Taj Mahal is at Agra, India. It was built by the Emperor Jehanghir as a mausoleum wherein to entomb the remains of his wife, Nourmahal. Few persons who read Lalla Rookh know that the "Light of the Harem" was a real personage, that she was indeed as beautiful and gifted as is there shown, that the love between her and the Emperor—the Selim of Moore's poem—was as tender as the poet depicted it, and that the tomb of this remarkable woman is to-day one of the wonders of the world. "It is a work," says Bayard Taylor, "inspired by love and consecrated to beauty." It is said that 20,000 men were employed twenty years in the construction of this work. It is of white marble, 100 feet in diameter and 200 feet in height, built in the form of an irregular octagon, and rising from a marble terrace under which is a second terrace of red sand-stone. At the corners of the marble terrace are lofty minarets, and in the center of the main building rises a dome flanked by cupolas of similar form. Every part, even the basement, the dome, and the upper galleries of the minarets, is inlaid with ornamental designs in marble of different colors, principally of pale brown and bluish violet. Here and there, also, the exterior and interior are decorated with mosaics of precious stones. The whole koran is said to be written in mosaics of precious stones on the interior walls. The dome is said to contain the sweetest echo in the world. Bayard Taylor says that if there were nothing else in India the sight of this alone would repay the journey thither. He compares it to a castle of the air "brought down to earth and fixed for the wonder of ages. Yet so light it seems, so airy, and when seen from a distance so like a fabric of mist and sunbeams, with its great dome soaring up, a silvery bubble about to burst in the sun, that even after you have touched it and climbed to its summit you almost doubt its reality."

#### ALGERNON SIDNEY.

Give a brief sketch of the life of Algernon Sidney.  
EXETER, N.H.  
E. D. BEECH.

*Answer.*—Algernon Sidney was born about 1622, a son of the Earl of Leicester and grandnephew of Sir Philip Sidney. In the civil war he took sides with Parliament, and fought with gallantry on the field of Marston Moor, where he was severely wounded. He served as lieutenant general in Ireland in 1646,

and Parliament gave him a vote of thanks for his services there. About the same time he became a member of Parliament. He acted as one of the judges of King Charles I. on his trial, but refrained from signing the warrant for the king's execution, though he fully approved of it. He was strongly in favor of the establishment of a republic in England, and when Cromwell was made Protector, with almost absolute power, Sidney retired to private life in disgust. He took his seat in the restored Parliament in 1659, but was sent abroad to negotiate a peace between Sweden and Denmark, and was absent from England at the time of the restoration. Unwilling to assent to the accession of the king, he remained a voluntary exile for nearly eighteen years. He endeavored to obtain assistance in both Holland and France toward the establishment of an English republic, but failed in both cases. In 1677, at the petition of his father, then a very old man, the king gave him permission to return home. He was charged with complicity in the Rye House plot, in 1683, and imprisoned. No evidence could be found against him but some garbled extracts from the manuscript of a theoretical work on government, but his judge, the infamous Jeffreys, declared these sufficient to convict him of treason. He met his death with unflinching courage, being beheaded Dec. 7, 1683. His writings upon government were published after his death.

#### VISION OF AGED PERSONS.

RED OAK, IOWA.  
How can improvement of vision in aged people be explained scientifically?  
O. B. G.

*Answer.*—We see objects by the formation of their images on the retina of the eye by parallel rays of light thrown back from the object. In a perfect eye this image falls directly upon the retina, and the object is seen clearly. But, owing to differing form in the lens of the eye, the rays of light do not always converge at the right point, and the image does not fall directly upon the retina. Thus, if the lens, or, as we say, the eyeball, is flattened in front, the rays will not come to a focus till they have passed the retina, and the object can not be seen at all unless held at a distance from the eye. Or, if the lens is too rounded in front, the tendency of the rays of light will be to converge before they strike the retina, and the object can not be clearly seen unless it is brought very near the eye. These defects, existing as they do in infinite variations of degree, are to a certain extent remedied by means of a muscle called the ciliary muscle, which moves and adjusts the lens. The waning sight of the aged is caused partly by the flattening of the eye-ball and also by the hardening of the lens, and the toughening of the ciliary muscle. Now, a person who has been near-sighted in youth, as age approaches and the natural flattening of the eyeball begins, finds that he can see objects clearly at a greater distance than before. Many persons who have used the concave glasses made for short sight in youth, are able after they have passed middle life to lay them aside, and others who have not used glasses, but have always suffered from restricted vision, will find as life advances that the usual need for spectacles does not affect them! Of course, the more extreme the short-sightedness has been, the more marked will this difference be. It can hardly be truthfully said



that the vision in these cases is actually improved, for though the point of vision has receded, beyond that point all vision continues to be, as it always is with near-sighted people, blurred and indistinct.

## VOLAPUK.

CHICAGO.

Give some account of the efforts to form a universal language called "Volapuk." Who was the originator of the scheme, and is it likely that such a language ever can be generally used? J. M. QUICK.

*Answer.*—A number of efforts have been made for two centuries past to found a universal language, but these have all seemed to lack some important particular of success. The most recent attempt in this line is much more promising than any which has preceded it. Volapuk is the invention of the Rev. Dr. Johan Martin Schleyer, of Baden, Germany, an accomplished linguistic student. He can speak and write, it is said, twenty-eight languages. He had been working upon his universal language scheme for some time when in 1879 he announced it, and he had so far perfected the plan of it in 1890 as to publish a pamphlet concerning it. The name is from vola, of the world, and puk, language. It is founded on the model of the Aryan tongues, the signs representing letters and words, not ideas; and all the root words, or nearly all, are taken from living modern tongues, the English being used to a much greater extent than any other language. The Roman alphabet is used, with some German dotted letters, and the continental sounds are given to all letters. All words are phonetically spelled. The Arabic numerals are used, and the names of the numbers are indicated by the use of the vowels in regular order. All plurals are formed in "s." All verbs are regular, and there is only one conjugation. Tenses are shown by vowels before the verb; preceding these vowels by "p" gives the passive voice. The personal pronoun placed after the root shows the person. One advantage of this language is that it can be learned very quickly. It is estimated that over 10,000 persons in Europe have mastered it, and it has been tried to some extent in this country also. If it could be adopted in commercial transactions between nations speaking different languages it would no doubt prove a very great advantage and saving of expense.

## FLEAS.

CHAMPAIGN, ILL.

Give a brief account of these troublesome insects, how they can be kept away and destroyed. M. COXNER.

*Answer.*—The common flea, whose scientific name is *pulex irritans*, belongs to the family of the diptera. The female of the species is rather larger than the male. The head is small and rounded above, with a very small eye on each side. The mouth has a long tongue, protected by a short, double jaw above, and a projecting jaw below. The body is covered with a tough, scaly integument. This insect has three pairs of legs, the first of which seems to be attached to the head. The two hind-most are made up of a number of long joints, which furnish it the means of taking its enormous long leaps. In color this parasite is a reddish brown. Its eggs are oval, white, and covered with a glutinous matter, and are deposited in dust, sand, or cracks of wood. In six days a lively little worm

without feet emerges, which is white at first, then reddish. In eleven days more these worms develop themselves in a little silk cocoon, from which at the end of eleven days more comes out the perfect flea. As to the habits of this insect, which in warm, dry countries is an intolerable nuisance, little need be said. It abounds particularly in the nests of pigeons, swallows, and barn-yard poultry, upon dogs, and whenever it can find convenient harboring places, in the abodes of men. As it must have dust and dirt in which to conceal its eggs, cleanliness is regarded as generally a guard against its presence, but in many localities and seasons it seems to obtain a harbor in the cracks of wood, and to require especial measures of extermination. To wash the wood with strongly odorous solutions, with wormwood tea or that of the plant known as flea-bane, or with carbolic acid and water, will generally drive the insects away.

## JAMES M. HARVEY.

LYNNHAVEN, VA.

Give a brief biography of ex-Governor James M. Harvey, of Kansas, and oblige several readers.

M. A. BROOKES.

*Answer.*—James M. Harvey was born in Monroe County, Virginia, Sept. 21, 1833. He was educated in the public schools of Indiana, Iowa, and Illinois, and practiced surveying and civil engineering until he removed to Kansas in 1859. He was a captain in the Kansas volunteer forces from 1861 to 1864, first in the Fourth and then in the Tenth Regiment. Was elected to the State Legislature in 1865, to the State Senate in 1867, and in 1869 was elected Governor of Kansas. On the resignation of Senator Caldwell in 1874 he was elected to fill out the unexpired term and served until 1877.

## CYCLONE IN INDIA.

CHICAGO.

Give some description of a tidal wave on the coast of India some twenty years or more ago, and tell whether it was caused by a cyclone or an earthquake. J. KIRKLEY.

*Answer.*—This storm occurred Nov. 1, 1864. It was caused by a cyclone. In all some 60,000 persons perished. The wind and storm rushed along the Eastern coast of the peninsula of India, and as it was the time of high tide, the hurricane raised the sea to an unexampled height. The wave rushed up the Ganges, overwhelming the villages on its banks, and leaving the few that escaped death by water to die by starvation, for all their crops were destroyed by the salt water. The scene of the greatest disaster was at Masulipatam, about half way down the coast. This town was protected from the ocean by a sea-wall and dykes. About 10 o'clock on the night of Nov. 1, during the blackest darkness, a tidal wave many feet higher than the highest tide-mark surmounted sea-walls and dykes and poured over the whole of the surrounding country. For an hour the water rose and covered nearly 800 square miles of the plain, and when it retired the work of destruction was done. The plain for eighty miles along the coast, and from nine to ten miles inland, had been submerged. The low-built houses of the natives had been washed away, and even those above the wave were blown down by the fury of the storm. Whole villages were destroyed, their inhabitants were drowned, their cattle lost, and the crops buried under a thick deposit of mud. The entire town of

Masulipatam was in ruins, enormous barges had been carried into the center of the town, and masses of solid masonry were tossed about as though they were but small rocks. In the fort outside of the town 1,000 persons perished, 15,000 in the town, and in the surrounding villages 20,000 more met death.

#### THE CUBIT.

HAMLIN, KAN.

How did the cubit originate, what length did it designate, and what was its history?

C. B. WALKER.

*Answer.*—The cubit was an ancient measure whose length was somewhat indefinite and varied in different countries. The measure is derived from a part of the human body, and as the human stature has not been of uniform length, the cubit was, of course, various. The word means the fore or lower arm. The arm thus designated may take in the entire length from the elbow to the tip of the third or longest finger, or it may be considered as extending from the elbow merely to the root of the hand at the wrist, omitting the whole length of the hand itself. The "cubit of a man," mentioned in Deuteronomy iii., 11, shows that the cubit of the Hebrews was derived as a measure from the human body. It is difficult to determine whether this cubit was understood as extending to the wrist or the end of the third finger. The Egyptian cubit, which most writers believe the Hebrews adopted, consisted of six hand-breadths, and is found to-day in the ruins of Memphis, and the Rabbins gave the same length to the Mosaic cubit, while Josephus leans to the same side. The question would naturally arise, what is a hand or finger-breadth? The answer is near to fact, as it has been customary for the palm or hand-breadth to be taken at  $3\frac{1}{2}$  inches. An ancient Egyptian cubit in existence in Paris, measures 20.484 inches. Some eminent authorities assert that the Hebrew cubit was 21 inches, while others fix it at 18 inches, confounding it with the Greek and Roman measure of a foot and a half. The most approved computations assign each kind of Jewish cubit the same length as the corresponding Egyptian, namely, 20.24 inches for the ordinary one, and 21.888 inches for the sacred.

#### THE PURCHASE OF ALASKA.

RICHLAND, ILL.

When was Alaska purchased, what was the consideration, and was the payment in cash?

J. C. KILGORE.

*Answer.*—Alaska was purchased in 1867. March 30 of that year the treaty making the cession was signed at Washington by President Johnson, and by the Russian Minister in behalf of the Czar Alexander. The Senate ratified this treaty May 20 following. The price paid was \$7,200,000 in gold. The actual transfer was made Oct. 9, 1867. General Rousseau, of the United States, taking formal possession on behalf of our government at New Archangel, on the island of Sitka.

#### THE GEMS OF THE MONTHS.

CHICAGO.

Give in Our Curiosity Shop a list of the gems or precious stones for each month. Where did this fancy originate?

E. McCALLUM.

*Answer.*—The singular superstition that each month has a gem associated with it is taken from the folk-lore of Poland. The people of that coun-

try believe that the influence of qualities attributed to these different gems control the destinies of persons born in the various months. Thus, January has a jacinth or garnet, which denotes constancy and fidelity in every engagement. February—Amethyst, insuring peace of mind as well as sincerity of purpose. March—A bloodstone, denoting courage and secrecy in dangerous enterprises. April—Sapphire or diamond, signifying repentance and innocence. May—The green emerald, typical of successful love. June—An agate, meaning long life and health. July—Ruby, or cornelian, which insures the forgetfulness or cure of evils springing from friendship or love. August—Sardonyx, a happy married life. September—Chrysolite, which preserves from folly. October—Aquamarine or opal, which denotes both misfortune and hope. November—Topaz, bringing the owner fidelity and friendship. December—Torquoise or malachite, signifying the most brilliant success and happiness.

#### "AMERICA."

VASA, MINN.

Who is the author of the hymn "America," and under what circumstances was it written?

J. A. EDQUIST.

*Answer.*—The well-known hymn beginning "My Country, 'tis of thee," and known by the name of "America," is by the Rev. Samuel Francis Smith. He was born in Boston, Oct. 21, 1808. Was educated in Harvard and studied theology at Andover. Was for many years a Baptist minister, and since 1854 has been engaged in literary pursuits and in editing the publications of the Baptist Missionary Union. It was of him that Oliver Wendell Holmes said, in his notable song "The Boys:"

"Now here's a young fellow of excellent pith,  
Fate sought to conceal him by naming him Smith,  
But he shouted a song for the brave and the free;  
Go read on his banner, my country, of thee!"

The poem was one of Mr. Smith's earliest productions. In a letter concerning it he says: "The song was written at Andover during my student life there, I think in the winter of 1831-32. It was first sung publicly at a Sunday school celebration, July 4, at Park Street Church, Boston. I had in my possession a number of song books from which I was selecting such music as pleased me, and finding 'God Save the King' I proceeded to give it the ring of American patriotism."

#### THE ENGLISH DRAFT HORSE.

MOLINE, ILL.

Give history and description of the breed known as the English draft horse.

W. P. AIKEN.

*Answer.*—The improvement in the common horses of England, which gave the breed known as the English draft horse, was effected by the importation of a race of black horses from Belgium and Holland. In England this breed is divided into three sub-families: 1. The very heavy horse, used by the London brewers, which is raised on the rich meadows of the midland counties. 2. The smaller-sized but still quite heavy horse, which is reared for the use of farmers. 3. Still another animal, lighter and more active. The modern English draft horse is much superior to his ancestors of a century since, because of the greatly improved methods of breeding adopted during the past fifty years. Sturdy, strong feet and legs are of the



utmost importance in the draft horse; the shoulders also should be oblique in shape, so that the animal may have free and safe action. The stallion should have a well-arched chest, long, lean head, and clear, prominent eye; added to this there must be great bone, supported by strong sinews, with plenty of muscle, and the animal should be a generous feeder to support this strength.

## THE CHICAGO ANARCHISTS.

WINONA, Minn.  
What are the nationalities of the Chicago condemned anarchists?  
READER.

*Answer.*—August Spies was born in Friedewald, in the Province of Hesse, Germany, thirty-two years ago. George Engel is a native of Kassel, Hesse, Germany, where he was born in 1839. Samuel Fielden was born in Manchester, England, in 1847. Alfred R. Parsons was born in Texas. Michael Schwab is a native of Bavaria, and is 34 years of age. Louis Lingg came from Baden, Germany, where he was born twenty-three years since. Adolph Fischer is also a German. Oscar W. Neebe was born in New York in 1850, of German parents.

## THE PUNIC WARS.

SODUS CENTER, N. Y.  
Give a brief outline of the wars between Rome and Carthage. Why called Punic wars?  
K. CHRISTIAN.

*Answer.*—The first great struggle between the rival states of Carthage and Rome, the two great republics which for more than five centuries had been slowly extending their limits and maturing their powers on opposing shores of the Mediterranean, began in 264 B. C. When the Carthaginians attempted a foothold in Sicily it was impossible that a war between the two jealous powers could be avoided, and when the Mamertines, a colony of Sicily, asked aid of the Romans against Carthaginian aggression, Rome readily granted it—eager to test the strength of her rival. At first the war was carried on in Sicily, the Romans taking the Carthaginian cities one by one. Then the Romans went to work building ships. Carthage had a large and well-manned navy, but the Romans had not a vessel nor a sailor. They set to work, however, immediately to build a navy. Taking for a pattern a Carthaginian galley that had been wrecked a short time before on the shores of Sicily, they had, it is said, in the incredibly short space of sixty days, a growing forest converted into a fleet of 120 war-galleys. With these vessels, clumsy as they were, and marines who were very green at their business, the undaunted Romans conquered the veteran sailors of Carthage at the battle of Mylae, and at Ecnomus nearly annihilated the Carthaginian fleet of 350 ships of war. The Romans were now ready to "carry the war into Africa," and sent over an army under Regulus, which, though successful at first, was, later, defeated, and its general taken prisoner. The Roman fleet, sent with 100,000 men to the rescue of the shattered army, was wrecked on the shores of Sicily in a terrific storm. Undismayed by the loss of their navy, the Romans set to work, and in three months had 220 more ships afloat, but these were also nearly annihilated in a storm. For a few years the Romans did not again trust the hostile

powers of the sea, and the next important battle was at Panormus, in Sicily, at which the Carthaginians, under Hasdrubal, were utterly defeated. The latter now proposed peace, sending the captive Roman general Regulus back to Rome to arrange conditions. Regulus, however, assured the Romans that Carthage was so enfeebled by the long war that it might be easily conquered, and he strongly counseled war instead of peace. The conflict, therefore, went on for several years with varying fortunes. The Romans built two more fleets and lost them both through storms. Then the superstitious terror of the people was thoroughly aroused, and it was believed that the sea god Neptune was determined that the Romans should not hold any dominion over the waves, and popular interest in Roman victory seemed to have perished. The Carthaginian general, Hamilcar, was sent to Sicily, where he carried on the war with such ability that Rome began to tremble for the safety of the Eternal City itself. Then it was determined to build another fleet. This was done entirely by private subscription, and under the command of the Consul Catullus it met and defeated the Carthaginian navy. The war had now lasted nearly twenty-four years, and Carthage at last sued for peace. She was compelled to give up all claim to Sicily and to pay all the expenses of the war. Then, for twenty-two years, there was peace between the two great rivals. During that time Carthage had more than repaired all of her losses by the conquest and colonization of Spain, and was very ready to renew the war in the hope of retrieving her humiliation in the former conflict. It is also said that Hannibal's intense hatred of the Romans was the principal inciting cause of the war. This general forced hostilities by laying siege to Saguntum, an allied city of the Romans on the sea-coast. The principal incidents of the second Punic war were the passage of Hannibal across the Alps, his victories at Ticinus, then Trebia, Lake Thrasymene, and Cannae; the destruction of Syracuse—which had been recaptured by the Carthaginians—by the Romans; the victorious march of Hasdrubal, Hannibal's brother, through Spain, and his crushing defeat and death at the battle of the Metaurus. The war was now carried into Africa by the Roman general, Scipio, and Hannibal was hastily recalled to defend his own city. At Zama, near Carthage, this great general met with his first and final defeat, his army being almost wholly annihilated. The war had now lasted eighteen years. Again Carthage sued for peace, and was granted it under even more humiliating conditions than those which closed the first war. She was required to give up all claims to Spain and to the islands of the Mediterranean; to surrender her war elephants, and all her ships of war, save ten galleys; to pay an indemnity of 5,000 talents at once, and 250 talents annually for fifty years, and to pledge herself not to engage in any war without the consent of Rome. Five hundred of her costly war galleys were towed out of the harbor of Carthage and burned in the sight of the citizens. An interval of fifty-two years followed, during which Rome encouraged her allies to commit aggressions upon Carthage until that city in

despair, regardless of the treaty, took up arms to repel insults without asking for Roman consent. After this the Romans, as the price of peace, forced the hapless Carthaginians to give all their remaining ships of war, all their arms, military engines and supplies, compelled them to give 300 hostages, and then commanded them, as the only way to escape destruction, to give up their city and seashore position, and to remove ten miles inland. When this last demand was made, the entire city vowed to resist to the bitter end the execution of the cruel decree. The gates of the city were closed; all commerce was stopped, and men, women, and children set to work and labored night and day manufacturing arms. The utensils of the houses and the sacred vessels of the temples and numberless art treasures were melted down for weapons. Buildings were torn down to give materials for military engines. The women cut off their hair and braided it into strings for catapults. By such labor the city was put into condition to withstand a siege, and when the Roman army came, expecting to take easy possession of the place, they found the people armed and ready to defend it to the death. For three years these heroic citizens maintained a warfare of despair. At the end of that time Scipio the Younger took the city by storm, and razed it to the ground, the inhabitants fighting the advance of the enemy from street to street for seventeen days. Then 55,000 people, the survivors of a nation, took refuge in a citadel, where they were captured and all sold into slavery. Scipio passed a plowshare over the site of the city, and sowed salt in its furrows, the ancient method of symbolizing utter annihilation. The wars were called Punic wars because the Carthaginians were Phœnicians by descent, in the Latin tongue Pœni, or Punicus.

#### RELIGIOUS STATISTICS.

ONEIDA, Kan.

Will Our Curiosity Shop give the membership of the M. E. Church, Congregational, Roman Catholic, and Presbyterian, as well as the amount of money each has invested in church property in the United States?

CYRUS SHINN.

*Answer.*—The Methodist Episcopal Church of the United States has, according to the latest statistics obtainable, a total membership of 1,768,229, with 222,148 probationers, 12,075 traveling preachers, 1,562 on trial, and 12,813 local preachers. The probable value of their church property is \$89,412,442. There were 20,263 churches. According to the reports for 1886 the collections for the year to various objects were \$1,352,307. There were by the last year-book 4,277 Congregational churches; 4,090 ministers, 436,341 members; the benevolent contributions \$1,677,096; amount of contributions for home expenditures, \$3,909,225. The whole number of Congregational churches in all lands is estimated to be 11,784, with 10,893 ministers, and 1,204,099 members. It is stated that there were, in 1885, 6,765 Roman Catholic churches in the United States, with 7,370 priests. The adherents were placed at about 7,000,000. No report is given of the value of their church property. The Presbyterian Church of the United States (by which is meant the reunited old and new school churches) met in general assembly last May at Omaha, Neb., when the following were the reports

made: Twenty-eight synods, 201 presbyteries, 986 candidates for the ministry, 357 licentiates, 5,654 ministers, 21,331 elders, 7,085 deacons, 8,436 churches, communicants 696,767, Sunday school membership 771,821; total contributions during the year, \$11,098,622. The estimated value of the church property is not given.

#### CAMPBELLITES—CHRISTIANS.

DELL RAPIDS, Wis.

What is the difference between the Campbellites and Christians, and when, and by whom was each sect founded?

M. S. S.

*Answer.*—The sects are altogether different in origin. The Campbellites originated in the formation of a small congregation in Washington County, Pa., Sept. 10, 1810, by Thomas Campbell, father of the famous Alexander Campbell. The son was the first minister of the new sect. Both father and son had originally been members of the "Seceders" of the Presbyterian Church, but left it because they did not regard it as sufficiently apostolic in faith and practice. They took up the doctrine of immersion, and this allied them in a way with the Baptists. When the new church had about five congregations, in 1815, these attached themselves to a Baptist association. The especial points in the faith of the Campbellites, who, however, prefer to be known by the name their founder gave them—"Disciples of Christ"—are the necessity of immersion to every believer, and the acceptance of the Bible as the only binding authority in faith and practice. They observe the rite of communion every first day of the week. They have no written creed, and allow wide differences of speculative opinion when not contradicted by the Scripture word. On most points, however, they hold the common faith of orthodox Christians. They are congregational in their organization.

The Christians (often improperly pronounced *Christ-ians*) are a denomination usually styled "the Christian Connection." This body is American in origin, and sprang from three different sources—the Methodist, Baptist, and Presbyterian churches in different parts of America. When the "O'Kelly secession" from the Methodist church took place in 1793, the seceders first took the name of "Republican Methodists," but afterward called themselves "Christians," avowing the New Testament as their only code of doctrine and discipline. In the year 1800, Dr. Abner Jones, a member of the Baptist Church in Hartford, Vt., becoming dissatisfied with the creed of his church, organized a congregation of twenty-five members at the village of Lyndon, in the same State, which took the Bible alone as its confession of faith. In a few years he was joined by a number of members of the Close Communion and Free-will Baptist churches, who in some cases brought their flocks with them. The third source of the new sect was found in Kentucky and Tennessee. About the year 1801, several ministers withdrew from the jurisdiction of the Presbyterian church, and organized themselves into a new and independent Presbytery. They kept up the organization for about two years, when they formally adopted the name of Christians for themselves and their followers. The three bodies thus separately organized were some time after brought into one society,



which took the name of "Christians," but are now more generally known as "the Christian Connection." They are now quite numerous, claiming, at their convention in 1886, a total of 140,000 members. Each congregation of Christians is independent, and the Bible is taken as the one binding standard of doctrine, but every man has a right to interpret the Scriptures for himself, so that differences of theological views is no bar to church fellowship. They do not generally receive the doctrine of the Trinity. They accept the divinity of Christ, however, and the sufficiency of his death as atonement for the sins of the world. Immersion they regard as the only form of baptism for believers. Neither the Campbellites nor the Christians accept infant baptism as of any significance or efficacy, as they regard the rite designed for believers only, i. e., those of mind sufficiently mature to accept the articles of the Christian faith.

#### SEVEN CHAMPIONS OF CHRISTENDOM.

Who were the seven Champions of Christendom, and why so called? Tell something about them.

ELWOOD, Kan.  
DENNIS LANDIS.

*Answer.*—This was the title of a book published about the middle of the seventeenth century, written by one Richard Johnson. The champions were seven saints selected because they were popularly regarded as the patron saints of different Christian countries. The writer fills his book with all the legendary lore that he can obtain regarding these personages, who were:

1. St. George of England, who fought against the Saracens during the crusades, went to Libya and killed a dragon, saving by this act the virgin Sabra, who afterward became his wife. The King of Morocco, being unwilling that Sabra should marry a Christian, sent St. George to Persia, where he was thrown into a dungeon, and there remained, according to Johnson, seven years. He escaped, carried off Sabra to England, where she became his wife, and they lived happily until his death. (It should be noted that this is not the St. George who was early chosen as the patron saint of England, and had April 23 appointed to be held in his honor by the Oxford National Council, in 1832. He was a real character, was born in Lydda, and put to death by the Emperor Diocletian April 23, 303 A. D. The St. George of the Crusades was a pure myth.) 2. St. Denis, of France, who is identified with Dionysius the Areopagite, a martyr, beheaded in 117 A. D. But though he may have been an actual character the stories concerning him are purely mythical, such as that he was bewitched and lived seven years in the form of a heart, and the tale which has rendered him pre-eminently famous, that, after his head was cut off, he rose to his feet, picked up the head again with his two hands, and walked off with it in triumph. 3. St. James, the patron saint of Spain, was the Apostle James the elder. Johnson, who is obliged to pull in the magic number seven wherever possible, fables that the saint was seven years dumb out of love for a fair Jewess. It is said that St. James sailed from Palestine in a small boat, and being carried by miracle safely over the seas, preached the gospel in Spain. 4. St. Anthony of Italy. Johnson has, of course,

some mythical tales of him, that he was enchanted at the Black Castle into a deep sleep, and that he was aroused and rescued by the three valiant sons of St. George who quenched the seven magic lamps of the castle by water from the enchanted fountain, etc. The real St. Anthony lived in the third century. He was an Egyptian by birth, and was the founder of monastic communities. Many fabulous tales are told concerning him, of which the best known, perhaps, is the story of his gathering the fishes together and preaching to them when the men and women of his congregation refused to hear him. 5. St. Andrew of Scotland. The Apostle Andrew was chosen by the Scots as their patron saint, because his cross was said to have appeared in the sky before a victory gained by the army of the Picts and Scots over the Saxons. Johnson has a number of absurd legends of the saint, such as the story how he was guided through the vale of walking spirits by the walking fire, and delivered six ladies who had lived seven years in the form of milk-white swans. 6. St. Patrick of Ireland. This was an historical personage, and his work in Christianizing the people of Ireland forms an important chapter in the early history of Britain, but this can hardly throw even a halo of probability around the wonderful stories told about him, as that he floated to Ireland on an altar-stone, that he turned a robber into a wolf, lighted a fire with icicles, etc., etc. 7. St. David, of Wales, was a priest of the sixth century. He preached to the Britons, and was made Bishop of Caerleon. He died in 544. Many miraculous stories are told about him as of all other patron saints.

#### THE AMERICA'S CUP.

CASSOPOLIS, Mich.  
Give the main facts in the history of the America's cup; when it was first put up for competition, how long has it been held in this country, etc. Also give a description of the cup itself.

FRED PATTERSON.

*Answer.*—This cup was originally called the Queen's cup. It was first given by the Royal Yacht Squadron in May, 1851, for a race around the Isle of Wight, and was open to challenge from any recognized yacht club in the world. The schooner yacht America, now owned by General Benjamin F. Butler, but whose principal owner at that time was Commodore J. C. Stevens, of the New York Yacht Club, crossed the ocean to sail for the cup. Her homely appearance excited the laughter of the natty British yachtsmen. She had been built by George Steers, and registered in custom-house tonnage 170 tons. She carried no foretopmast, and displayed no boom on her foresail. Nevertheless she took the lead in the great race of Friday, Aug. 22, 1851, and held it against fourteen crack British yachts, completing the run of eighty-one miles, despite the loss of her jibboom, eight minutes in advance of the cutter Aurora. The cup then came to this country, and has since remained here. Contests have been held for it in 1870, 1871, 1876, 1881, 1885, 1886, and 1887, the American vessels in every case coming off the winners. The cup itself is an elaborately ornamented vessel, rather in the shape of a vase with a handle or a pitcher than a cup. It stands two feet high and weighs at least 100 ounces. Around its broadest

part are medallions variously inscribed. The first inscription is as follows: "One hundred guinea cup, won Aug. 22, 1851, at Cowes, England, by yacht America, at the Royal Yacht Squadron regatta, open to all nations, beating"—and then follows the names of all the vessels that took part in the race of 1851. On the next medallion is engraved: "Schooner America, 170 tons, Commodore John C. Stevens, built by George Steers, New York, 1851." On the other spaces are inscriptions recording the results of various races for the cup.

#### THE EMPRESS EUGENIE.

WEBBER'S FALLS, I. T.  
Give a sketch of the life of the Empress Eugenie, wife of Louis Napoleon. I. KROFT.

*Answer.*—Eugenie Marie de Montijo was born in Grenada, Spain, May 5, 1826. Her father was a Spanish grandee, who was connected with many illustrious families. Her mother, Maria Kirkpatrick Closeburn, was descended from a Roman Catholic family of Scotland which took refuge in Spain after the fall of the Stuarts. Eugenie was educated in France and England, and traveled with her mother. She bore the title of Countess of Teba, and resided much in London. It is said that she met Napoleon here during his exile for the first time, but it was not until later, when he was President of France, and she appeared in the brilliant festivals of the Elysee in Paris, in 1851, that her beauty and grace permanently attracted him. They were married Jan. 29, 1853. The Prince Imperial was born in March, 1856, and the prospective right of regency was conferred on the Empress in 1858. She made the court of France very brilliant by her accomplishments and remarkable taste in dress. When the Emperor left Paris for the seat of war in 1870 she became regent. After the fall of Sedan she escaped to England, where her husband joined her and they resided until his death.

#### SOME VALUABLE WOODS.

IONIA, Mich.  
Where are the following woods found: Tulip, satin, rosewood, sandal, black ebony, and white holly? C. J. SIMS.

*Answer.*—The tulip tree is a native of America, and is found from Canada to Florida. It is especially abundant in the Western States. The wood is greatly valued for the ease with which it can be worked. Satin wood is the name applied to several woods of commerce which acquire a peculiar luster when polished; the principal of these are brought from India and the Bahamas and West Indies. The Indian satin wood is from a tree of the meliaceae family, which grows to a height of 50 or 60 feet, and is found along the Coromandel coast and other parts of India; the wood is hard and yellow. The Bahaman wood comes from a tree of another species; it is lighter colored than the India wood. Rosewood is a name applied in commerce to several costly kinds of ornamental wood, which come from different countries and from very different trees. The best-known rosewoods are from Brazil and other parts of South America, Africa and Burmese rosewoods are thought to come from a different species of the same family as South American trees. Other kinds are brought from different places and are obtained from very different trees. One kind is found on the Canary Islands only, another on the island of Jamaica, and others

at different places. Sandal wood is the name of the aromatic wood of several species of santalum, mainly found in the East Indies, and on the mainland of India, though certain kinds are also obtained in the forests of the Hawaiian Islands, the Feejee Islands, and in Australia. Black ebony wood is found principally in Ceylon, Madagascar, and Mauritius, where it grows spontaneously, and is cultivated to a certain extent in other localities of the East. The wood of all species of the holly tree is remarkably white when the tree is young, but assumes a darker color with age. The European holly is found especially in Italy, Greece, and the Danubian provinces. It grows abundantly throughout Southern Europe, and is also cultivated in Great Britain. The American holly is found along the Atlantic coast, from Maine southward, and is especially abundant in Virginia and the Carolinas. It does not flourish so well in the West.

#### MONOMETALLISM VS BIMETALLISM.

HERINGTON, Kan.  
We hear it said that a silver dollar is worth less than a gold dollar; how are the relative values of the coins determined? Why do some advocate a monometallic, and some a bimetallic currency? Please give the arguments on both sides.

J. D. SWANSEN.

*Answer.*—The relative values of gold and silver coins are determined primarily by the comparative bullion value of the two metals. It differs somewhat in different countries, owing partly to variations in the demand and the supply, and partly to the fact that this ratio is fixed or accepted at a certain figure by the different governments, and the market ratio and the legal ratio of the metals do not always agree exactly. The accepted ratio of gold and silver in this country is 15½ to 1, that is, a given weight of gold is worth 15½ times as much as the same weight of silver. As far as the different value of the gold dollar and the silver dollar is concerned, however, it does not exist in this country, since the law makes the silver dollar a full and sufficient tender for 100 cents in all cases. But for purposes of foreign exchange, we must fall back upon the ratio of market value, and our silver dollar is worth no more than it would purchase as silver. The bimetallicists assert first, that it is possible for a government to fix by law the substances to be used as money and their relative value. They hold that it is the quantity of money that gives it its entire value outside of law, and that its cost of production has no influence in the matter. They contend that a fixed ratio of value can be maintained by law between the two metals, and that if this ratio were the same in all countries, there would be no temptation to export the cheaper metal from one country to another and thus disturb the existing ratio. They claim that a greater stability for value would exist for the two metals combined than for either singly, since the fluctuations of the two metals would tend to counteract each other, and also that greater facilities for trade would exist, because the variations of exchange between different countries would disappear. Another argument is that the greater abundance of money would cause an increase in prices, or at least, would check any fall in prices that might arise from a diminution of



the production of gold. The final argument is that a universal currency—which is only possible with a double standard—is unquestionably desirable, because its advantages would accrue, primarily, to the mass of the people, the many of moderate means. The monometallists, of course, contend these positions, claiming primarily, that the cost of production ultimately regulates the value of all metals, and that any attempt at artificial regulation would only stimulate the production of the cheaper metal. They say that as the government can not make gold and silver equal in value by law, it can not change their comparative value in any degree. They contend that there is no proof that a greater stability to the values of the metals will follow upon the adoption of the double standard, nor any proof that the masses of people will be benefited thereby. They claim that the single standard is unquestionably the best for those having to deal in money largely; this they considered proved by experience, and any advantages on the other side to outweigh this they prefer to doubt. Further, they claim that the bimetallic system as applied to the world is altogether impracticable, and they use the alleged impossibility of the universal adoption of the bimetallic scheme as a shield for the less tenable of their arguments against it.

#### THE MUSCULAR SENSE.

OATVILLE, KAN.

It is said that for hours after a limb has been amputated, the person can feel any touch upon it, even though it is excluded from his sight. If this is true, please explain it.

B. BIGELOW.

*Answer.*—It is a well known fact that, not merely for a few hours, but for weeks, and even months after a limb has been taken off, the person seems to feel sensations in it, or rather in the place where it once was, and is conscious of it in different positions as though it were present. These sensations are very vivid for a time, the patient says that he feels his lost arm lying by his side, or on his breast, or even that he has a peculiar tingling or aching in the fingers that are gone, etc. Precisely similar sensations are noticed when a leg has been amputated. But the common idea that these sensations have anything to do with the lost limb itself is very childish, for this may be thrown in the fire immediately after removal, or otherwise destroyed or mutilated, and the patient will know nothing of it if he is not told. The true explanation is very simple. We learn, from infancy, to associate certain local sensations with certain muscular movements. The nerve carries the impression of the sensation to the brain, and the brain becomes conscious of the feeling as belonging to a particular muscular action. After this muscular action is no longer possible, the nerves may still, through irritation, weakness, or disease, take an impression to the brain, which is instantly localized through habit with the remembered muscular action. This is one of the proofs of what physiologists call a muscular sense. This is not to be regarded as an actively conscious sense, like sight or touch, but is rather of the nature of organic sense, giving its information and working its effects without definite consciousness. This internal sensibility corresponds, or answers, to every chang-

ing condition of the muscles, and even after the removal of a limb, or any part of the body, the sensations associated with it by the consciousness, may remain, and a deceptive sensibility to the condition of the muscles of the lost organ, its nerves or even its skin, may still be apparently felt.

#### THIRTY-THIRD WISCONSIN INFANTRY.

DAWSON, NEB.

Give a brief history of the Thirty-third Wisconsin Infantry.

R. B. ALLEN.

*Answer.*—The Thirty-third Wisconsin Infantry was recruited in the southern tier of counties in Wisconsin, was mustered in at Camp Utley, Racine, Oct. 18, 1862, and Nov. 12 left for Memphis. It was with the expedition against Holly Springs, and was engaged during the winter guarding roads at various points through the country. In May it joined Grant's expedition against Vicksburg, and took active part in the siege, losing heavily in killed and wounded. It was at the capture of Jackson, returned to camp at Vicksburg, and in August was sent down to Natchez. Returning in December it took part in Sherman's Meridian expedition in February, and in June in General A. J. Smith's expedition into the interior of Mississippi, and had a gallant share in the battle of Tupelo. In August it was with the White River expedition. In October, was sent to Cape Girardeau, moved from one point to another in Missouri, on scouting and guard duty, and finally, in December, was ordered back to Nashville, arriving in time to take part in the battle there Dec. 16, 1864. Thence it went to Eastport, where it went into winter quarters, but in February, 1865, was sent to Mobile by way of New Orleans, and took gallant part in the attack on Spanish Fort. After the surrender of Mobile the regiment went to Montgomery, and in July went to Vicksburg, where the men were mustered out and sent home.

#### PAPER CAR WHEELS.

OXFORD, MICH.

Explain how paper car wheels are made, who was the inventor, and how long have they been in use?

READER.

*Answer.*—The paper car wheel was invented by Richard N. Allen, a locomotive engineer on the Cleveland and Toledo Railroad. He had the first set of paper wheels made in 1869, at Brandon, Vt., and though all railroad men scoffed at them, he was good-naturedly allowed the use of a wood car on the Central Vermont Road, under which they were tested for six months. They bore the test well, and were then used elsewhere with equal success. In 1871 the Pullman Palace Car Company gave the first order for 100 wheels; twelve years later the Allen Paper Car Wheel Company, with shops at Hudson, N. Y., and Pullman, Ill., were manufacturing 20,000 annually. The body of the wheel only is made of paper, and the material used is a paper of rye-straw, which the Allen Company make at their own mills. The mode of making the wheels is described as follows: The paper is sent to the works in circular sheets of twenty-two to forty inches diameter. Two men, standing by a pile of these, rapidly brush over each sheet an even coating of flour paste until a dozen are pasted into a layer. A third man transfers these layers to a hydraulic press, where a pressure of 400 tons or more is applied to a large pile of them, the

layers being kept distinct by the absence of paste between the sheets. After solidifying under this pressure for two hours the 12-sheet layers are kept for a week in a drying-room heated to 120 degrees Fahrenheit; several of these layers are in turn pasted together, pressed and dried for a second week, and still again these disks are pasted, pressed, and given a third drying of a whole month. The result is a circular block, containing from 120 to 160 sheets of the original paper, compressed to  $5\frac{1}{2}$  to  $4\frac{1}{2}$  inches thickness, and of a solidity, density, and weight suggesting metal rather than fiber. The rough paper blocks are turned accurately in a lathe, when shavings like leather and a cloud of yellow dust fly off, to a diameter slightly greater than the inner circle of the tire. The hole in the center is also made on the lathe, and after the paper has received two coats of paint to prevent moisture working its way within, the cast-iron hub is pressed through by the aid of the hydraulic press, and the wrought-iron back plate is clamped on. The suction of enormous hydraulic power now drives the paper center into the tire by help of the bevel, and the wheel is made. The advantages of these wheels filled with paper over those of solid iron are several: 1, their greater cheapness; 2, their much increased elasticity, a very great advantage in carrying the great weight of loaded cars; 3, a much lessened susceptibility to the effects of extreme cold, which so affects the crystalline structure of iron sometimes as to make it exceedingly brittle.

#### THE FLIGHT INTO EGYPT.

GAYS, III.

By what route did Joseph take Mary and the infant Jesus to Egypt? What was the nature of the country passed through, and the character of its inhabitants?

E. G. VINCENT.

*Answer.*—It is thought that the route taken by Joseph was along the edge of the wilderness of Judea, by a line going directly south from Bethlehem, trending a little toward the west. The country was hilly but not difficult to traverse. It was inhabited by the Hittites, a people that at this time were friendly toward the Jews. This flight, we are assured, was just exactly what every other Jew, at that time similarly circumstanced, would have determined upon. There was quite a Jewish colony in Egypt, made up of those who had been driven thither by the usurpations and injustice of Roman rule. The distance from Bethlehem to a point beyond Herod's jurisdiction was not more than seventy miles, about three days' journey.

#### OZONE.

BURTON, Kan.

What is ozone, and what are its uses?

J. MACGRECHY.

*Answer.*—Whenever it is exposed to the action of electricity, oxygen undergoes a contraction of volume and acquires very different properties. This change has been shown to consist in an alteration in the atomic structure of the oxygen. Thus, while each molecule of oxygen contains two atoms, there are three atoms in each molecule of ozone. It follows from this that ozone is half as heavy again as oxygen, and it has accordingly been demonstrated that its specific gravity is 24, while that of oxygen is 16. Ozone has a very peculiar odor, whence its name (from the Greek word *ozo*, I smell), and this was for many years supposed by

chemists to be the smell of electricity, as though the electric force were a substance. Even after the fallacy of this idea was clearly shown it was many years before the true nature of the ozone was understood. Ozone is obtained by subjecting oxygen to the influence of the silent discharge of electricity. By this part of the oxygen is transformed, but not all of it, for pure ozone has never yet been obtained. Traces of ozone are usually present in the atmosphere, especially in the open country, and there is no doubt that it performs an important part in removing organic impurities from the atmosphere. A limited amount of it in the air is health-giving and stimulating, but an undue proportion of it produces great irritation of the lungs and bronchial tubes. Ozone by being heated is again converted into oxygen. Ozone has found uses in chemistry because of its great oxidizing powers, and is employed to form certain compounds as a bleaching agent and as a disinfectant. It is believed that, skillfully and persistently used, it could check the spread of infectious diseases. But no attempt has yet been made to effectively test this power.

#### BURNING OF PENNSYLVANIA HALL.

ATHENA, Pa.

Give the circumstances of the destruction of Pennsylvania Hall by a mob in 1838.

WILLIS ATKINS.

*Answer.*—The Abolitionists of fifty years ago were a despised and rejected class. They were few in number, and popular clamor was nearly everywhere against them. They were not permitted to hold meetings in the churches and halls of Philadelphia, and determined to erect a hall of their own. The place erected was called Pennsylvania Hall, built at a cost of \$40,000. It was dedicated May 14, 1838. David Paul Brown delivered the oration, the subject being "Liberty." John G. Whittier wrote for this occasion a poetical address. During three days meetings were held and speeches were made, says Henry Wilson, to crowded assemblies for temperance, for the Indian, and for the slave. At the same time there was in the city an anti-slavery convention of women, and it was announced that on the evening of the third day some of its members would address the audience. There were such great crowds in attendance that thousands had to go away unable to gain admission. There were gathered around crowds of people, who hurled stones against the windows, and the audience was interrupted by every riotous demonstration. In the hall were many who joined in the yelling and the disturbance. William Lloyd Garrison made an address, as also did Mrs. Maria W. Chapman, of Boston; Miss Angelina Grimké, then an exile from her native State because of her abhorrence of slavery; Miss Abby Kelley, of Massachusetts, and others. On May 17 the mob again began to gather around the hall. Those who held the hall in trust appealed to the police and mayor for protection, but the day passed without any measures being taken. The mayor informed the board of managers that he would disperse the disturbing elements, provided the hall was placed in his hands. He addressed the mob, that separated



for a little while, only to reassemble at the hall, and to begin attacking its doors and windows. The mayor called on the police and fire companies, and was unable to protect the place. The hall was soon set on fire and destroyed. During the two days following the rioters attacked the negroes of the city. Among the places attacked was "the Shelter for Colored Orphans," a charitable institution which had no connection with the Abolitionists. Bethel Church was attacked and damaged, and the dwellings of colored people were surrounded and the inmates threatened with violence.

#### CLOUDS—THEIR NATURE AND FORMS.

RUSSELL, Kan.  
Name the different kinds of clouds, their composition, velocity, height, and their influence on reflection and refraction of light; also on heat and moisture. ADOLPHUS.

*Answer.*—A cloud is a mass of visible vapor or water particles held in suspension in the atmosphere. If it rests upon the surface of the earth we call it a fog. We see a mass of vapor on the summit of a high mountain and we call it a cloud, but if we climb to the top of the mountain and find ourselves in the cloud we see it to be simply a fog. To our observation, clouds take on forms that are almost infinite in variety, yet they may be divided into six classes, each presenting quite distinct characteristics. These are known as cirrus, cumulus, and stratus cloud, as simple divisions; and cirro-cumulus, cirro-stratus, and cumulo-stratus as compound divisions. The cirrus cloud consists of long, slender filaments, either parallel or diverging from each other. These clouds have the greatest elevation and the least density of all clouds. Even in fair weather the sky is seldom free from small distant groups of cirrus clouds. They are thought to be made up of spiculae of ice or flakes of snow, since at the great height at which they float, from five to eight miles above the earth, the temperature of the air is below freezing point even in midsummer. The cumulus cloud is much denser than the cirrus, and is formed nearer the earth. It usually has the form of a hemispherical or convex mass with horizontal base. This is the cloud often seen in large masses near the horizon, looking like huge mountains of snow. The rounded top of this cloud results from the mode of its formation. As the earth is heated by the sun's rays, currents of warm air rise, carrying with them invisible vapor. When they reach a certain height this vapor is condensed and forms cloud, and since the upward motion is greater under the center of the cloud, the vapor is there carried to its greatest height. The stratus cloud is a widely-extended, horizontal sheet, often covering the entire sky, and hanging so low that it frequently touches the earth's surface in the form of a fog. For the compound modifications of cloud forms, the cirro-cumulus is seen in small rounded masses, often very near together. On account of their fleecy appearance these are often called "woolly" clouds." This cloud is very frequent in summer, but seldom precedes rain. The cirro-stratus consists of fibrous clouds spread out in strata, which are either horizontal, or slightly inclined to the horizon. Sometimes the whole sky is mottled with this cloud, looking like the back of a mackerel, and therefore is called a

mackerel sky. This cloud always presages wind and rain. The cumulo-stratus is the large dark cloud formed by the massing of the fleecy cumulus in great heaps. These clouds are to be seen in great magnificence on the approach of a thunder-storm, and are therefore often called "thunder heads." Some meteorologists also classify with the above the nimbus cloud, which is a stratus cloud from which rain is falling, but others do not think it worth while to keep this division. The height of a cloud is measured by trigonometrical rule by observing its direction simultaneously at two stations. In mountainous countries it can be compared with the peaks near which it passes. Most accurate results, however, are obtained by ascending in a balloon and noting the height of the barometer when entering the cloud and again when emerging from it, the barometer giving the means of computing corresponding altitudes. The height of clouds is very variable. The stratus, as we have said, often descends to the earth. In pleasant weather the lower limit of cumulus clouds varies from 3,000 to 5,000 feet elevation, and their upper limit from 5,000 to 12,000 feet. Cirrus clouds never descend below the summit of Mont Blanc, which has a height of 15,744 feet, and are often seen to be far above mountains that are 20,000 to 22,000 feet high. It is estimated, however that they would not be visible at a height exceeding ten miles. In vertical thickness clouds are supposed to seldom exceed half a mile, but the enormous masses of cumulus are sometimes estimated at over three miles. Clouds move with the wind, and there is no way of estimating their movement but by measuring the velocity of the wind currents. Clouds reflect light, of course, or they would not be visible; such light as can pass through them is refracted out of its path by the presence of the vapor particles. Thus, when we see objects through a fog we often notice that they are distant from their true position or unnaturally magnified. The effect of clouds on heat is to lessen it, the water particles absorbing it, and lowering the temperature of the air by their conversion into invisible vapor. Nevertheless, clouds hanging low in cold weather prevent a fall of temperature by preventing the radiation of heat from the earth's surface. As to moisture, clouds are, obviously, moisture itself as well as its cause.

#### SECOND WISCONSIN CAVALRY.

LEWIS, Wis.  
Give a full account of the Second Wisconsin Cavalry, its raids and battles. E. E. TRACY.

*Answer.*—The Second Wisconsin Cavalry was raised by the Hon. C. C. Washburn, who was commissioned as its colonel in the fall of 1861. It left camp at Milwaukee March 24, 1862, and went to St. Louis, where it was organized and mounted. It was then sent on to Springfield, and in June Colonel Washburn was promoted, put in command of his brigade, and moved South to join General Curtis, taking the second and third battalions of the Second Regiment. In Arkansas they had several sharp encounters with the enemy, and were finally stationed at Helena. In November these battalions crossed the Mississippi and dislodged the rebel forces entrenched at Abbeville, and early in the following year were sent to Memphis, where

they remained until June, when they were ordered to join the troops before Vicksburg. They were with General Sherman in his capture of Jackson, and finally went into camp, first at Redbone Church, and in the following April at Vicksburg. The regiment re-enlisted in January, 1864, and the veterans and new recruits were kept busy during the summer scouting the country between Vicksburg and the Big Black River. In September the first battalion, which had been left in Missouri, where it had been employed in scouting and skirmishing, joined the others. In December the regiment embarked for Memphis, at which point it joined the famous Grierson expedition. On its return it was sent into Arkansas, where it had some severe experience scouting through that swampy country in the winter time. In February it came back to Memphis, in May went to Grenada, Miss., in June was ordered to Alexandria, La. Part of the regiment went into Texas in August, and in the following November all were mustered out and sent home.

#### STEAM ENGINES.

CHERRY BOX, Mo.

Tell the difference between a high pressure and a low pressure engine. E. HOWE.

*Answer.*—All steam engines are divided into two great classes—condensing engines and non-condensing engines. The former are supplied with apparatus for condensing the steam that escapes, by contact with cold water pipes and transforming it into water again. The latter are not furnished with the condenser. They are also distinguished as high pressure and low pressure engines, the former term being applied to engines supplied with steam of 50 pounds pressure to the square inch and upward, and the latter to engines working under 40 pounds pressure. The low-pressure engines are almost invariably condensing, and the high-pressure engines very generally non-condensing, and the terms high pressure and low pressure have come to imply the presence or absence of the condensing machinery, though in some instances this understood implication is incorrect. There are many varieties of both classes of engines. All locomotives and most of the engines used on land are non-condensing engines. All marine engines, with the exception of those of the smaller class of tug-boats and Western river steamers, are condensing engines.

#### MINISTER MOTLEY AND PRESIDENT GRANT.

CHICAGO.

What was the cause of the strong dislike of Minister Motley, the historian, to General Grant? J. W. S.

*Answer.*—Mr. Motley had been Minister to Austria, and resigned that post in 1867. When General Grant became President he appointed the historian Minister to Great Britain. It was during his mission in Great Britain that some of the difficulties were pending between that country and the United States relative to the Alabama claims. Reverdy Johnson had been Minister to Great Britain, and had arranged with Lord Clarendon a convention or treaty. Known as the Johnson-Clarendon convention. This was to be submitted to both governments for their approval, amendment, or rejection. This convention was

not at all satisfactory to the United States, and it was ultimately rejected, and Mr. Johnson retired. Mr. Motley was then appointed. He was instructed to say to the British government that the United States, in rejecting the convention, abandoned neither its own claims nor those of its citizens, nor the hope of an early, satisfactory, and friendly settlement, and to base the cause of grievance against Great Britain not so much upon the issuance of her recognition of the incipient state of war, but upon her conduct under and subsequent to such recognition. Mr. Motley did not represent to Lord Clarendon the hope of an early, satisfactory, and friendly settlement. He said that the President recognized the right of a sovereign power to issue proclamations of neutrality between the insurgent portions of a nation and the lawful government, when such insurrection should have gained the necessary magnitude, consistency, and extent of organized power and probability of justification by success, but that such measures must always be taken with a full view of the grave responsibilities assumed. Mr. Motley's course in this respect was disapproved by his government. The negotiations were withdrawn from London, and, it appearing by a subsequent dispatch that he had submitted an account of the interview to Lord Clarendon for verification, he was instructed to inform Lord Clarendon that his course had been disapproved. After further negotiations and the exchange of other dispatches, Lord Clarendon died, and it being supposed the new minister might desire to reopen negotiations, Mr. Motley was invited to resign, in order to afford the United States an opportunity to be represented by a minister in harmony with it. Mr. Motley declined to resign and he was removed.

#### MME. TUSSAUD AND HER WAX WORKS.

HYDE PARK, Ill.

Can Our Curiosity Shop tell something about Mme. Tussaud, whose collection of wax works, we are assured, is still on exhibition in London? Was there a real Mme. Tussaud, and where did she establish the museum? MARY BYRNE.

*Answer.*—Mme. Tussaud was a veritable character, a gifted, energetic woman. She was born in Berne, Switzerland, in the year 1760. When a child she was sent to Paris and placed in the care of an uncle, who was an artist, and who taught her to draw and paint, and especially to model in wax, since in the last-named art she showed great talent. She was employed to teach the Princess Elizabeth, sister of Louis XVI., to draw and model, and thus spent much of her time at the Tuileries and at Versailles, where she had opportunity of meeting all the celebrities of the times. When the revolution broke out, she was one of the few of the aristocracy who escaped the fury of the populace, and this fact she owed principally to her artistic skill, as the revolutionary leaders employed her to immortalize them by her talents. She made figures in wax of Robespierre, Marat, and others, and was on many occasions employed to take models of heads that had fallen by the guillotine. By these and other means Mme. Tussaud was enabled to form a large collection of models of the most celebrated persons in France. But she was herself at one time imprisoned and was in danger



of the guillotine, though subsequently she was liberated. In 1802 she went to London, and there put her collection on exhibition, and many distinguished persons admiring her enterprise permitted her to model them for her collection. She lived in London for forty years, and amassed quite a small fortune through her exhibition. She died April 15, 1850. She was a woman of sterling worth, and much respected by all who knew her. The wax works museum now in London, called after her, is conducted by her descendants. It is one of the sights of the great city.

#### QUEEN VICTORIA'S PREMIERS.

Give the names and titles of the men who have held the office of Prime Minister under Queen Victoria.

E. DARNELL.

*Answer.*—On the accession of Queen Victoria, June 20, 1837, the Prime Minister in office was the Viscount Melbourne. Two years later he resigned, and was succeeded by Sir Robert Peel, Sept. 1, 1841. Since then the Premiers and their dates of appointment have been as follows: Lord John Russell, July 3, 1846; Earl of Derby, Feb. 27, 1852; Earl of Aberdeen, Dec. 23, 1852; Viscount Palmerston, Feb. 28, 1855; Earl of Derby, Feb. 26, 1858; Viscount Palmerston, June 18, 1859; Earl Russell, Nov. 6, 1865; Earl of Derby, July 6, 1866; Benjamin Disraeli, Feb. 27, 1868; William Ewart Gladstone, Dec. 9, 1868; Benjamin Disraeli (Earl of Beaconsfield), Feb. 21, 1874; William Ewart Gladstone, April 28, 1880; Marquis of Salisbury, June 24, 1885; William Ewart Gladstone, Feb. 6, 1886; Marquis of Salisbury, Aug. 3, 1886.

#### TAKING UP A TIMBER CLAIM.

ECKHART, III.

What are the requirements for taking up a timber claim? After entering claim, how long until the first trees must be planted? How many and what kinds are required, and how long after entering can one secure a proved-up deed?

T. D. SEELY.

*Answer.*—Any person who is a citizen of the United States, or has filed a declaration of intention to become a citizen, and who is the head of a family, or has attained the age of 21 years, can make a timber culture entry. Only 160 acres can be taken up, and no person can make more than one entry. The fees for entry are \$10 if the tract is more than eighty acres, and \$5 for eighty acres or less, besides the register's fees. The ratio of area that must be broken or planted is one-sixteenth of the land in the entry. A person entering 160 acres must break or plow five acres during the first year, and five acres in addition during the second year. The five acres broken or plowed during the first year he must cultivate by raising a crop during the second year, and plant it with timber during the third year. In like manner, the five acres broken the second year must have a year of cultivation, and then, in the fourth year, must be planted with seeds or cuttings of trees. If the trees, seeds, or cuttings are destroyed for a year or term of years the time of planting is extended for the same period, but no final certificate can be given or patent issued for the land until the expiration of at least eight years from the date of entry. At that time it must be proven that the land has been cultivated for not less than eight years, that not less than 2,700 trees were planted on

each acre, and that at the time of making proof there are growing at least 675 trees to each acre, before the claim can be proved up. The trees must be timber trees; orchard trees or hedge plants will not be accepted.

#### RULERS OF FRANCE.

OMAHA, Neb.

Will Our Curiosity Shop give a table of all the French rulers, from the accession of the House of Bourbon to the present time, with dates and order of succession?

N. T. NEARN.

*Answer.*—The history of France is remarkable from the fact that a single family—the Capets, which after the sixteenth century was known as the House of Bourbon—occupied its throne for over 800 years. Its founder was Hugh Capet, one of the most powerful princes of his time, who had inherited from his father the titles of Duke of France and Count of Paris, and was remotely connected with the then reigning house, the Carolingians, his great-grandmother having been the grand-daughter of the great Charlemagne. He was chosen king by the nobles in 987, on the death of Louis V., who left no direct heir, in preference to the Duke of Lorraine, the King's uncle, because of the latter's unpopularity with the feudal lords of his time. To be sure, in 1328, in 1498, and again in 1589, the direct succession was broken, but in each case a branch descended through the male line, was found ready to take up the royal honors of the family. The descent of these sovereigns is plainly indicated in the following table:

NAME.	Reigned	Line of Descent.
Hugh Capet.....	987-996	.....
Robert.....	996-1031	Son of Hugh.
Henry I.....	1031-1060	Eldest son of Robert.
Philip I.....	1060-1108	Eldest son of Henry.
Louis VI.....	1108-1137	Son of Philip.
Louis VII.....	1137-1180	Son of Louis VI.
Philip II. (Augustus).....	1180-1223	Son of Louis VII.
Louis VIII.....	1223-1226	Son of Philip II.
Louis IX. (St. Louis).....	1226-1270	Eldest son of Louis VIII
Philip III.....	1270-1285	Eldest son of Louis IX.
Philip IV.....	1285-1314	Eldest son of Philip III.
Louis X.....	1314-1316	Eldest son of Philip IV.
Philip V.....	1316-1322	Second son of Philip IV.
Charles IV.....	1322-1328	Third son of Philip IV.
Philip VI.....	1328-1350	Son of Charles, Count of Valois, youngest son of Philip III.
John (the Good).....	1350-1364	Son of Philip VI.
Charles V.....	1364-1380	Eldest son of John.
Charles VI.....	1380-1422	Eldest son of Charles V.
Charles VII.....	1422-1461	Third son of Charles VI.
Louis XI.....	1461-1483	Eldest son of Charles VII.
Charles VIII.....	1483-1498	Only son of Louis XI.
Louis XII.....	1498-1515	Grandson of Louis of Orleans, second son of Charles V.
Francis I.....	1515-1547	Grandson of John, second son of Louis of Orleans.
Henry II.....	1547-1559	Second son of Francis I.
Francis II.....	1559-1560	Eldest son of Henry II.
Charles IX.....	1560-1574	Second son of Henry II.
Henry III.....	1574-1589	Third son of Henry II.
Henry IV. (of Navarre).....	1589-1610	Descended, in the tenth generation, through the male line from Robert, second son of St. Louis. Married Marguerite, daughter of Henry II., to unite the branches.
Louis XIII.....	1610-1643	Eldest son of Henry IV.

Louis XIV.....	1643-1715	Eldest son of Louis XIII.
Louis XV. (Philip of Orleans, regent during the young King's minority).....	1715-1774	Great-grandson of Louis XIV.
Louis XVI.....	1715-1722	Youngest son of Louis XIII.
Louis XVII.(the dauphin).....	1774-1793	Grandson of Louis XV. (guillotined in the French Revolution).
Anarchy rule of the Commune and Reign of Terror.....	Aug.1792 to Aug. 1795.....	Son of Louis XVI., supposed to have died in prison.
The Directory..	Aug.1795 to Nov. 1799.....	
Napoleon I.— As First Consul.....	1799-1804	
As Emperor.....	1804-1814	
Louis XVIII.....	1814-1824	Brother of Louis XVI.
Charles X.....	1824-1830	Brother of Louis XVI.
Louis Philippe.	1830-1848	Grandson of Philip of Orleans, son of Louis XIII.
Napoleon III.— As President.....	1848-1852	Nephew of Napoleon I.
As Emperor.....	1852-1870	
Republic proclaimed.....	Sept. 4, 1870.....	
Provisional government, President Trochu.....	S'pt.1870 to Feb. 1871.....	
Pres. Thiers.....	Feb. 17, 1871, to May 24, 1873.....	
President Mac Mahon.....	May 24, 1873, to Jan.30, 1879.....	
Pres. Grevy.....	Jan. 30, 1879.....	
Re-elected.....	Dec.1885.....	

## MELROSE ABBEY.

DECATUR, Mich.

Give history and description of Melrose Abbey, Scotland.  
L. NIXON.

*Answer.*—Melrose Abbey is a celebrated ruin in Roxburghshire, Scotland, near the Tweed, about thirty-one miles southeast of Edinburgh. It was founded in 1136, by David I., completed in 1146, and dedicated to the Virgin Mary. In 1322 it was destroyed by the English army of Edward II., but it was soon rebuilt by Robert Bruce, in a style of magnificence which ranks it among the most perfect ecclesiastical constructions in the best age of Gothic architecture. In 1385, and again in 1545, it suffered severely at the hands of the English armies, and during the reformation its choicest sculptures were mutilated. In later times many of the stones have been taken away to use in other buildings, but the church still remains, and a part of the cloister square. After five centuries, these show plainly the original beauty of the building. Some of the tracery and carving are not surpassed by any similar existing specimens. As an abbey, the history of Melrose is but meager. Its first occupants were Cistercian monks. In its line of abbots

there was but one saint, St. Waltheof, who was a stepson of King David. King Alexander II. was buried within its walls at his own request; Bruce left it the legacy of his heart, and it gave tombs to that flower of Scottish chivalry, the Knight of Liddesdale, and to his cousin, the heroic Douglas, who fell at Otterburn. But outside of its history as an abbey, the poetry of Sir Walter Scott has given to the legendary history of Melrose Abbey a romantic interest. Any account of it, therefore, would be incomplete without his charming picture of it:

"If thou wouldst view fair Melrose aright,  
Go visit it by the pale moonlight;  
For the gay beams of lightsome day,  
Gild, but to flout, the ruins gray.  
When the broken arches are black in night,  
And each shafted oriel glimmers white;  
When the cold light's uncertain shower  
Streams on the ruined central tower;  
When buttress and buttress, alternately,  
Seem framed of ebony and ivory;  
When silver edges the imagery,  
And the scrolls that teach men to live and die;  
When distant Tweed is heard to rave,  
And the owl to hoot o'er the dead man's grave,  
Then go—but go alone the while,  
And view St. David's ruined pile;  
And, home returning, soothly swear,  
Was never scene so sad and fair!"

## THE CONFEDERATE FLAG.

COLUMBUS, Ohio.

Give a description and brief history of the Confederate flag.  
S. P. D.

*Answer.*—In the flag museum at Washington, in the War Department Building, may be seen the first flag raised over Charleston in 1861, literally the first banner of secession. It is a perfect caricature of a flag. It is made of bunting—once white, no doubt, but now dingy with time and dust—and upon it is sewed a poor representation of a palmetto tree; this has eight branches and no leaves, and looks more like a huge spider than anything else. On it are also sewed eleven red stars and a red moon just rising. This flag was used at Forts Sumter and Moultrie at the outbreak of the war. Just as the palmetto flag was used by the State of South Carolina when it seceded, the pelican flag was used by Louisiana, and flags of other designs were used by other States. But the first Confederate flag legally established was adopted at Montgomery March 4, 1861. It had a red field, with a white stripe through the center, one-third the width of the flag, and the union was blue, extending down through the white space to the second red space, and in the center of it was a circle of seven white stars, indicating the number of States in the Confederacy. This was the famous "Stars and Bars." But it was too much like the United States flag, so that on the battle-field of Bull Run the one was frequently mistaken for the other. At the suggestion of General Beauregard, therefore, the "Southern Cross," or battle-flag, was adopted for field service, and used to the end of the war. This had a red field, with blue bars diagonally across it, in the form of a Greek cross, with seven stars in white or gold. The bars were separated from the red ground by a



white fillet inserted. This flag for infantry service was made four feet square; for cavalry three feet, and for artillery two and a half feet square. It was never used for sea service, as it had no union, and could not be reversed as a signal of distress. The "stars and bars" was therefore used by the navy. Another flag was adopted by the Confederate Congress May 1, 1863. The length of this flag was twice its width, and it had a white field, with the battle-flag as its union. The first vessel to use this flag was the Atlanta, the Confederate ram, which left the port of Savannah in May, with the hope of winning laurels for the new standard. She was met, however, by the monitor Weehawken, June 17, and after an engagement of fifteen minutes she was so battered that her officers hauled down her flag, tore off a square of the white and displayed it as a flag of truce. This second flag was objected to because it was so much like the British standard, and also because it resembled a flag of truce. The latter objection was regarded as so valid that a broad strip of red was attached to the fly end of the flag. The third and last ensign of the short-lived Confederacy was adopted by the Confederate Congress Feb. 4, 1865. Its width was to be two-thirds of its length, and its union, for which the design of the battle-flag was still used, was three-fifths the width of the flag. Its field was white, except the outer half from the union, which was a red bar the width of the flag. Three months after the adoption of the ensign, its *raison d'être* perished in the utter overthrow of the Confederate armies.

## TARA'S HALL.

OHIO, III.

What was Tara's Hall, referred to in Moore's ballad? Was there such a place, where was it situated, and what was its history? S. MENDON.

*Answer.*—The site of Tara's Hall is in the County Meath, Ireland, and some of the ruins of the old building are still to be seen. Till the seventh century the high King of Erin resided in the palace of Tara. Under the supremacy of Brian Boru in the island, one of his subordinate chiefs, or provincial kings, held the title of King of Tara. These subordinate kingdoms resembled in power the Bretwaldas of the Saxon rule in England. The Tara estate in the thirteenth century belonged to a family of Norman descent—the Repenthenyes. In the reign of Queen Elizabeth, the then Lord of Cabra and Tara, Richard de Repenthenye, was arraigned on the charge of uttering treasonable expressions against the Queen, and though an old man of 70 years, he was condemned and executed. However, about twenty years later, his descendant, Edward de Repenthenye, was restored to the estates by James I. In the civil wars several members of the family were killed, and when Cromwell extended his iron rule over Ireland the estates of Francis de Penthy, then the chief of the house, were again alienated. The lands of Cabra and Tara were surveyed in 1657, with the rest of the forfeited possessions in Ireland, and after the restoration of Charles II. were by letters patent, under the act of settlement, bearing date 5th February, 1669, granted to James, Duke of

York, the king's brother, afterward James II. From him they passed to Lord Tyrconnel, who also forfeited them. In 1702 they were purchased by a company that had been formed for making sword blades in England, who soon after disposed of their interest to Thomas Meredith, of Dublin, and thus disappeared the ancient estates of the Lords of Tara. But in the latter part of the century part of the estate was regained by the family of Penthy O'Kelly, who were legitimate descendants of the ancient family. Near the ruins of Tara's Hall a battle was fought May 26, 1798, in which the English forces worsted the Irish. On the same spot Daniel O'Connell held a mass meeting in favor of repeal of the act of union between Great Britain and Ireland, Aug. 15, 1843, and it is said that 250,000 people were present. The ancient character of this ruined hall and its connection with the early glories of Ireland give it a romantic interest, which is touchingly expressed in Moore's poem:

The harp that once through Tara's halls  
The soul of music shed,  
Now hangs as mute on Tara's walls  
As if that soul were fled.  
So sleeps the pride of former days,  
So glory's thrill is o'er,  
And hearts that once beat high for praise,  
Now feel that pulse no more!

No more to chiefs and ladies bright,  
The harp of Tara swells;  
The chord alone, that breaks at night,  
Its tale of ruin tells.  
Thus Freedom now so seldom wakes;  
The only throb she gives  
Is when some heart indignant breaks,  
To show that still she lives!

## SINGING SAND.

MILLINGTON, III.

Is it true that a part of the seashore of Massachusetts is composed of singing sand? If so, give a description of it, and tell if singing sand is found in any other locality. T. DORR.

*Answer.*—Investigation made by officers of the life-saving service some three years ago showed that samples of singing sand could be found in twenty-six places on the American coast. Testimony received from other points has more than doubled this number of instances. One of the most remarkable and also best known instances is that of the beach at Manchester, Mass., where the sand for about one-fifth of a mile gives out a distinct sound when it is walked upon or even when it is stirred by a rod or cane. A stick driven into the sand violently will elicit a sound that can be heard 140 feet away above the roar of the sea. Professor Julien, of Columbia College, who has given the subject of this phenomenon much study, says: "The singing sand may occur in comparatively small patches in the midst of ordinary sand; it always occurs between the limits of high and low tide; the same sand does not produce sound at all seasons, nor does it always give forth like sounds; when it is wet it will not emit sounds. When samples were transported in bags they lost their sounding power, but retained it when carried in bottles. The leading theory concerning singing sand is that the sound is produced by friction be-

tween the angular particles, and the conditions necessary are believed to be perfect dryness, uniformity of grain, varying from one-fifth to one-tenth of an inch in diameter, and freedom from dust."

#### SUMPTUARY LEGISLATION.

CHARITON, Iowa.

What is sumptuary legislation?

J. H. AUGHEY.

*Answer.*—Sumptuary laws so-called are those designed to repress and moderate the expenses of private citizens. They were very common in early times. In kingdoms they had their origin in the idea that the king had absolute power over his subjects; in republics they seem to have been designed to prevent the formation of a privileged class. In the Roman republic laws were passed forbidding the use of articles of luxury, prescribing the amount of money to be expended by each citizen on his table, regulating the value of a woman's wardrobe, etc. These laws were always evaded and broken. Similar regulations were passed in England, France, and other European countries, regulating sometimes the food and drink, but most generally the dress of the people. But they always fell into disuse. In modern times the strong sentiment in favor of individual liberty has prevented the adoption of sumptuary laws, but governments have endeavored to some extent to repress the use of luxuries by levying taxes thereon.

#### THE BALD KNOBBERS.

BLOOMINGTON, Mo.

Give some account of the Bald Knobbers of Missouri.

READER.

*Answer.*—To understand the history of the society known as the Bald Knobbers, it is necessary to go back to the early settlement of Missouri. In the southwestern part of the State there is a mountainous district comprising about a dozen counties. This country was first settled about three generations ago by the ancestors of the present Bald Knobbers. These people had come from the mountain regions of the Carolinas, Western Virginia, and Eastern Kentucky and Tennessee, in which localities they had been known as "po' white trash," the general term then given by the planters and negroes to non-slaveholding whites. Coming to Missouri with little wealth save their horses, shotguns, and family carts, they found a home to their fancy in the Ozark Mountains. Here, as farther east, they found themselves the scorn of the wealthy planters on the low lands adjoining them, but the mountain recesses abounded in game and the hillsides gave their hardy cattle abundant and cheap pasture, and they lived in peace and comparative plenty until the civil war broke out. All these men were Douglas Democrats, and they declared themselves decidedly on the side of the Union. They became known as the "Mountain Feds," and under their leader, William Monks, they struck many a blow against the power of the guerrillas. After the coming of peace civilization began making its way into the Ozark Mountains in a manner that the "Mountain Feds" did not at all approve of. Railroads were built, and settlers began to find out that the large tracts of land that these mountaineers had so long held as their own, were still open for settlement under the homestead

law. They pushed in and began taking up the land, in utter disregard of the holdings of the inhabitants. The mountaineers did not understand it; they could not at all comprehend how strangers could have a right to take the land on which their huts stood and their cattle grazed; and, furthermore, they did not mean to submit to it. They formed a secret society to resist and drive out the homesteaders, and called themselves Bald Knobbers, taking their name from the Bald Knob, a desolate peak in Fancy County. At first they tried intimidation of the new settlers only. Then they grew bolder, and committed depredations. Finally, they killed two men who had withstood them, and this brought about the arrest of a large number of the leaders of the society, and their trial for their lawless deeds.

#### UNITED STATES PENSIONS.

GLENWOOD, Mo.

Give statistics showing the number of pension claims allowed each year since 1861, the number of pensioners on the roll each year, and the total of disbursements each year.

W. E.

*Answer.*—In 1861 there were 8,636 pensioners on the roll, and the disbursements for the fiscal year ending June 30, 1861, aggregated \$1,072,461.55. The increase since that time is well indicated by the following table:

Fiscal year ending June 30.	New claims allowed.	Number of pensioners on the roll.	Disbursements for pensions.
1862.....	462	8,159	\$790,384.76
1863.....	7,844	14,791	1,025,139.91
1864.....	39,487	51,135	4,564,616.92
1865.....	40,171	85,986	8,525,153.11
1866.....	50,177	126,722	13,459,996.43
1867.....	36,432	153,183	18,619,956.46
1868.....	28,921	169,643	24,010,981.99
1869.....	23,196	187,963	28,422,884.08
1870.....	18,221	198,686	27,780,811.81
1871.....	16,562	207,495	33,077,383.63
1872.....	34,338	232,229	30,169,341.00
1873.....	38,012	238,411	39,125,280.62
1874.....	10,462	236,241	30,593,749.66
1875.....	11,162	234,821	29,653,116.63
1876.....	9,977	232,137	28,351,699.69
1877.....	11,326	232,104	28,580,167.04
1878.....	11,962	223,998	26,844,415.18
1879.....	31,346	242,765	33,780,626.19
1880.....	19,545	250,802	37,240,540.14
1881.....	27,394	268,830	50,626,538.61
1882.....	27,664	285,697	54,296,280.64
1883.....	38,162	303,658	60,431,972.85
1884.....	34,192	322,756	57,273,536.74
1885.....	35,767	345,125	65,693,706.72
1886.....	40,867	365,783	64,584,270.45

#### THE CASE OF ST. MARTIN.

OLAF, Iowa.

Give an account of the case of Alexis St. Martin, by means of which important facts concerning digestion were obtained.

O. T. RIKENSBU.

*Answer.*—Alexis St. Martin was a young Canadian in the service of the American Fur Company, at Michilimackinac, in 1822. From an accidental shot he received the whole charge of a musket in his left side, which carried away with it part of his clothing, fractured two ribs, lacerated the lungs, and entered the stomach. He was put under the care of Dr. William Beaumont, then the United States surgeon at that place. This physician restored St. Martin to his former good health within a year, but the aperture in his body never closed. In 1825 Dr. Beaumont began a series of experiments on the stomach of St. Martin, studying its operation, secretions, and the actions of the gastric juice. These experiments the physician continued at intervals for several years. During this time



St. Martin presented the remarkable spectacle of a man enjoying good health, appetite, and spirits, while there was a hole in his body, two and a half inches in diameter, through which the entire action of the stomach might be observed. Dr. Beaumont published the result of his observations in 1833, which were acknowledged to be of the greatest value to medical science. St. Martin lived to be a hale old man.

#### THE EAST INDIA COMPANY.

ST. JOHN, Kan.  
Give a history of the East India Mercantile Company. When was it chartered, what were its objects, when was its charter revoked, and why?  
E. M. CORNETT.

*Answer.*—In the year 1593 an adventurous Englishman named Stevens landed on the western shore of the great Indian peninsula. He found a rich country, inhabited mainly by peaceful people of simple manners, and was immediately struck with the opportunity here afforded for commercial adventure. Returning home, this traveler wrote a book describing the splendor of the country that he had visited, its abundance of precious stones, of gold and silver, the rich fabrics woven by its people, and rare perfumes distilled from richly-odorous flowers. Some merchants of London were eager, of course, to form a company to open up this new avenue for trade, but it was some time before sufficient capital for the undertaking could be raised. In the year 1600 the company obtained a charter from Queen Elizabeth, and began trading. In a few years it began establishing stations for the transaction of its business. The first of these was at Surat, established in 1613. In 1620 the capital of the company had increased to £400,000, and its prospects for continued commercial prosperity were very good. But other European traders had perceived the great possibilities of Indian commerce, and the Englishmen were soon involved in irritating competition with Dutch, Portuguese, and French rivals. Though their only object had been peaceful trade they soon saw they could not retain this without the aid of force. In 1645 the company built a fort at Madras and garrisoned it with native warriors. In 1657 Cromwell renewed the company's charter; in 1661 power was given to it by Charles II, to make peace or war with any people not of the Christian religion, to export ammunition and stores duty free, and to establish fortifications, garrisons, and colonies. It was necessary for the company to renew its charter every few years, and sometimes Parliament granted this very reluctantly, but the company was steadily growing in wealth and power. About the middle of the eighteenth century the troubles between the French and English in India culminated in a war, in which the English under General Clive were successful. About the same time they began to have trouble with the natives, and after conquering one of the native princes they adopted the plan of taking possession of his territory. By the close of the century the East India Company was one of the governing powers of the world, keeping great armies on foot, fighting great battles and controlling vast revenues. The British government now appointed a board of control to supervise the civil and military government exercised by the company. In 1833, by the

terms of a new charter granted by the government, the East India Company ceased to be a trading association. It was intrusted with the government of all the affairs of the Indian Empire, subject to the board of control; Indian trade was made free to all British subjects, and all the property owned by the company was vested in the crown, to be held and managed by the company in trust for the crown, the government guaranteeing to them an annual dividend of 10½ per cent on their stock. Finally, all the treasure of the company, valued at over £21,000,000, was taken possession of by the government and devoted, first, to the payment of the company's debts; second, to making public improvements in India, and, third, to forming a sinking fund to aid the government—when it should seem advisable to Parliament to decree such a measure—in buying out the company's stock. This charter was granted for twenty-one years. In 1854 Parliament agreed to renew it but not for any given time. The Indian mutiny of 1857-8 (for full account of this see *Our Curiosity Shop* book for 1886) convinced Parliament that a reform in the administration of affairs in India was needed, and all the functions and powers of the East India Company were transferred to the crown. This final change was made by act of Parliament dated Aug. 2, 1858.

#### THE GREAT CHINESE WALL.

TREMONT, Ill.  
James Payn, an English writer, in a letter written to the *New York Independent*, positively asserts that the great Chinese wall, concerning which so much has been written, is all a myth. Can *Our Curiosity Shop* give us some positive information on the subject?  
L. S. KEEN.

*Answer.*—The iconoclastic rage of modern travelers, their desire to overthrow all the idols that previous travelers have set up, and to prove all explorers before them mistaken, often leads them into strange errors. The fact is, the great Chinese wall, though now largely in ruins, was one of the stupendous works of the world. It was begun 214 years before Christ, its purpose being to protect China from the incursions of the northern tribes. It was completed in about ten years. From S. Wells Williams' work, "The Middle Kingdom," probably the best work on China and the Chinese ever prepared, we condense the following description of the wall as it can now be seen. It begins at a coast town known as Shanhai K'wan, runs along the shore for several miles, terminating on the beach near a long reef. From this point its course is west, tending a little to the north till it strikes the Yellow River. This is the best built part of the wall. Beyond it goes nearly west till it strikes the Yellow River again, and then goes in a northwest direction to its termination near Kraya K'wan. The entire length of the wall is 22¾ degrees of latitude, 1,255 miles in a straight line, but its turnings and doublings increase it to fully 1,600 miles. The construction of this great work is somewhat adapted to the nature of the country that it traverses, and its material was taken or made on the spot where it was used. In the western part of its course it is in some places merely a mud or gravel wall, and in others is of earth cased with brick. The eastern part is composed of earth and pebbles faced with larger bricks, weighing from forty to sixty pounds each, supported on a

coping of stone. The wall here is about twenty-five feet thick at the base and fifteen feet at the top, and varies from fifteen to thirty feet high. There are brick towers at intervals, some of them more than forty feet high, but these are not built on the wall, they are independent structures, and in many places the wall between the towers is a mere crumbling dike, but the towers stand almost as solid as when built. As, excepting in a few places, nothing is done to keep the wall in repair, much of it is in a mere state of decay. In this western part, beyond the Yellow River, it is mostly "a mere mound of earth and gravel about fifteen feet in height, with occasional towers of brick, or gateways of stone. At Kalgan portions of it are made of porphyry and other stones piled up in a pyramidal form between the brick towers, difficult to cross, but easy enough to pull down. The appearance of the rampart at Ku-peh-kau is more imposing; the entire extent of the main and cross walls in sight from one of the towers there is twenty miles. In one place it runs over a peak 5,225 feet high, where it is so steep as to make one wonder as much at the labor of erecting it on such a cliff as on the folly of supposing it could be any use there as a defence. The wall is most visited at Nan-Kan, in the Ku-yung Pass, a remarkable Thermopylae fifteen miles in length, which leads from the plain at Peking up to the first terrace above it, and at one time was guarded by five additional walls and gates now all in ruins." To the testimony of Professor Williams, who spent forty-three years of his life in China, may be added that of scores of others who have visited that country, and the legitimate conclusion is, that if Mr. Payn did not see the great wall of China it was simply because he did not go where it was.

#### THE GREAT SERPENT MOUND.

OGDEN, Minn.

Give brief description of the Great Serpent Mound of Ohio. Has it recently been purchased for a public park?

R. G. MARR.

*Answer.*—This mound is one of the prehistoric monuments of the country. It is situated in Adams County, Ohio. It is a long earthen embankment on the edge of a bluff 100 feet high, and throughout the greater part of its course it has the waved outline of a snake, while the tail is coiled in a spiral like a watch-spring. The head of the serpent is represented with wide-open mouth, and in front of it is an oval figure about ninety feet long, apparently resting on the distended jaws, and still beyond there is an object which has been supposed to resemble a jumping frog. The length of the serpent is about 1,300 feet; measurements made of it vary considerably because of the difficulty of following the center of the curving outline. There was once quite a heavy growth of timber on this mound, but it was blown down by a tornado in 1859. The embankment, constituting the serpent, is upward of 5 feet high by 30 feet broad at the center of the body, diminishing somewhat toward the head and tail. The embankment forming the oval is about 4 feet high. This curious figure has been supposed by some to represent the original cosmological idea of the serpent and the egg. Some have supposed that this mound was erected to commemorate a great battle; others

that it had a religious significance. Whatever it was made for, it may be regarded as one of the most remarkable of the prehistoric monuments in this country. It has been purchased as a public park. The well-known archaeologist, Professor T. W. Putnam, of Cambridge, has been the mover in the scheme, and has been aided by some wealthy ladies of the East. Sixty acres adjoining the mound have also been purchased, and the purpose is to enclose it all, and have it cared for as a park.

#### COTTON WOOL—THUNDER.

MADISON, Wis.

1. Is there actually such a fiber as cotton wool; is not cotton always cotton? 2. What is the accepted cause of thunder? H.

*Answer.*—1. Cotton wool is so called because it resembles wool. Its fiber is always neither more nor less than cotton. 2. Thunder is understood to be the result of the sudden re-entrance of the air into a vacuum. This void is supposed to be generated by the lightning in its passage through the air. The electricity gives a powerful repulsive force to the particles of air along the path of its discharge, thus making a momentary vacuum, into which the surrounding air rushes immediately, with a violence proportioned to the intensity of the electricity.

#### MEDICAL PRACTICE AND PHARMACY LAWS.

CHICAGO, Ill.

In what States do laws exist regulating medical practice? What States have pharmacy laws, and when were they adopted? M. R. C.

*Answer.*—Thirty or forty years ago there were practically no restrictions on medical practice and the profession of medicine was literally open to all. Bogus diplomas were openly and unblushingly sold, and the country was overrun with hosts of ignorant, immoral swindlers, calling themselves doctors, who preyed upon afflicted humanity. Pretended schools of medicine multiplied, and the standard of the profession fell lower and lower. The first State to pass a strict law creating a State Board of Medical Examiners to inquire into the qualifications of physicians was North Carolina. This law was passed in 1859. No similar law was enacted until 1874, when Kentucky passed a bill creating district examining boards, but except in a few counties, this law soon became practically a dead letter. In 1875, Nevada, and in 1876 California and Texas legislated upon the subject. In 1877 Alabama established a board of medical examiners, and Illinois passed a medical practice act, the execution of this latter law devolving upon a State board of health created by a separate enactment. Kansas passed a medical practice law in 1879, but repealed it in 1891. In 1880 New York adopted a statute of this character, and, the people being generally aroused, in 1881 nine States and one Territory enacted medical practice laws, as follows: Arizona, Arkansas, Colorado, Connecticut, Florida, Georgia, Nebraska, New Jersey, Pennsylvania, and Wisconsin. In 1882 Louisiana, Mississippi, New Hampshire, New Mexico, South Carolina, West Virginia, and Wyoming; in 1883 Delaware, Michigan, Minnesota, and Missouri; in 1884 Dakota and Virginia, and in 1886 Indiana and Iowa have swelled the total to thirty-three States and Territories of the Union which now exercise some degree of legislative control over the practice of medicine within their bor-



ders. The general object of this legislation has been to fix and uphold a recognized standard of professional attainments. This is usually secured by requiring the candidate for a physician's certificate to present a diploma of graduation from some legally chartered medical school in good standing, or, in some instances, this may be waived, if the candidate will submit to a strict examination in the various branches of medical science. In the States of Alabama, Mississippi, North Carolina, and Virginia, however, the diploma is ignored, and the candidate is obliged to prove his fitness by means of an examination in medicine. The District of Columbia, the Territories of Idaho, Montana, Utah, and Washington, and the States of Kansas, Maine, Maryland, Massachusetts, Ohio, Oregon, Rhode Island, Tennessee, and Vermont still lack the laws necessary to protect the State against the evil of quacks.

In 1880 the State Board of Health of Illinois addressed a series of inquiries to all the medical colleges then existing in the United States, also to prominent members of the medical profession throughout the United States, and to medical societies, asking (1) the proper requirements for admission into a medical school; (2) what branches should a college in good standing teach, and what should be the length of its course; (3) what requirements should it maintain; (4) what should be its conditions of graduation. From these replies a "schedule of minimum requirements" was drawn up, defining a standard below which no college should fall, and according to which all desiring to be physicians should be governed. It may be said that no college "in good standing," even in States where medical practice legislation has not been enacted, now comes short of this schedule, and it has been made the basis of legislation in several States. These require that the medical student shall be of good moral character and possessed of a good English education; that he shall give regular attendance on two full courses of lectures, of not less than twenty weeks each, and not both within one and the same year. Two terms of hospital and clinical instruction, and two courses of dissection, with attendance at all examinations, are required, and it is stipulated that the time of professional studies shall extend over a term of not less than three years.

Pharmacy laws and schools of pharmacy are quite as recent a reform as medical practice laws. Until about 1870, there were in this country no restrictions on the sale of drugs, medicines being often prepared and prescriptions compounded by persons altogether ignorant of the true nature of the drugs they handled. There were in existence good colleges of pharmacy, but no legislation to restrict the handling of drugs to persons who had fitted themselves for the business. The first step toward establishing a standard that public opinion might demand if the laws did not, was the formation of the American Pharmaceutical Association in 1852. It was not until 1869, however, that the first State association of this kind was formed. The first pharmacy laws were, we think, those established in New York City in 1872, requiring all druggists and dispensing chemists to be graduates of a

pharmacy college or pass a satisfactory examination before a board of pharmacy. By 1884 pharmacy laws had been adopted by the Legislatures of Connecticut, Delaware, Georgia, Illinois, Kentucky, Maine, Missouri, New Hampshire, New Jersey, New York, North Carolina, Ohio, Rhode Island, South Carolina, West Virginia, and Wisconsin. Local laws had also been put in force in many large cities. During 1885 laws regulating pharmaceutical practice were also adopted in Kansas, Minnesota, Michigan, and Massachusetts, and in 1886 in Wyoming Territory and Virginia. There is much lack of uniformity in these laws, and an effort is being made by the National Association to bring about a general harmony of State regulation of pharmacy throughout the country.

## OSCEOLA.

CHICAGO.

Tell something of the Seminole Chief, Osceola. When and where did he die? M. N. WILSON.

*Answer.*—Osceola was a half-breed, the son of an English trader, Willis Powell, and a Creek Indian woman. He was born on the Chattahoochee River, Georgia, in 1804. In 1808 his mother went to Florida, and when the boy grew up he became by his eminent ability the governing spirit of the Seminole nation, always foremost in sport and in military exercise. When in 1834 the Government proposed to move the Seminoles from their reservation across the Mississippi, Osceola stirred up the nation to resistance. Because of his insolent replies to General Thomson—the officer sent down to remove the Indians—the chief was one day seized, put in irons, and thrown into prison, where he was kept for twenty-four hours. Osceola's wounded pride called for vengeance, and he obtained it through a war which harassed the whites for seven years. He began the war by killing the innocent white inhabitants on the borders of the Everglades. A few days later the chief surprised General Thomson and five of his officers at their dinner and murdered them all. The Creeks joined the Seminoles in 1836, and by bravery, skill, and treachery Osceola frequently overmatched United States troops sent against him, and commanded by experienced officers. These depredations were pushed into Georgia, and they plundered and killed the peaceful settlers in all that region of country. General Scott, sent down to command the United States forces, prosecuted the war with such vigor that the Creeks surrendered, and were removed across the Mississippi. But the Seminoles kept up the war for a time with desperate energy. Finally in March, 1837, some of the chiefs signed a treaty of peace. Osceola, however, caused this treaty to be violated, and the war was renewed, and continued all through the summer of 1837. In October Osceola was induced to go with several other chiefs to the camp of Colonel Jesup under the protection of a flag of truce. Jesup was determined to repay Osceola for his many acts of treachery. The conference was held in a grove of magnolias. When Osceola arose to speak, Jesup gave a signal, and several of his soldiers rushed forward, seized the chief, and bound him. He was sent to Charleston and confined in Fort Moultrie, where he died of fever Jan. 31, 1839. The

place where he was buried is still to be seen near the main entrance to the fort, marked with a small monument. Colonel Jesup was severely censured for this violation of the sanctity of a flag of truce, but his plea was that it was the only way to check the distressing war, as Osceola could not be held by the most solemn obligations of a treaty. The Seminoles, however, continued the war for several years. A treaty was concluded in 1839, but though many of the tribe were immediately removed to the Indian Territory, peace was not permanently secured until 1842.

#### TENTH WISCONSIN INFANTRY.

Give a brief history of the Tenth Wisconsin Infantry.

NELSON, Neb.  
WISCONSIN Inf.  
ILL.

*Answer.*—The Tenth Wisconsin Infantry was mustered in at Milwaukee, Oct. 14, 1861. It went to Kentucky in November, and performed railroad and picket duty until March, when it was sent on to Murfreesboro to act as provost guard. When the retrograde movement of the army toward the Ohio began, the Tenth acted as rear guard, and was compelled to fight guerrillas continually. Later the army advanced again in pursuit of General Bragg, and the Tenth had a share in the battle of Perryville, and in the still bloodier engagement of Stone River later. In June, 1863, the regiment joined General Rosecrans' army, and at the battle of Chickamauga, Oct. 19, lost eighteen killed, fifty-six wounded, and over 100 taken prisoners. It was also in the battle of Missionary Ridge, and at the fights in the Atlanta campaign, of Dallas, Kenesaw Mountain, and Peach Tree Creek. Soon after the arrival of the army before Atlanta, the Tenth Wisconsin was detached from the brigade, and placed on guard. At Marietta, Ga., Oct. 16, the recruits and re-enlisted men of the regiment were transferred, by order of the War Department, to the Twenty-first Regiment, and the others left for Wisconsin, reaching Milwaukee Oct. 25, where they were mustered out of service.

#### DEATHS OF THE APOSTLES.

ORANGE CITY, Iowa.

Tell how the different apostles were put to death, as far as is known. Did any of them escape martyrdom?

A. J. B.

*Answer.*—St. Matthew, of whose history even less is known than of the other apostles, is supposed to have suffered martyrdom, or to have been slain with a sword in Ethiopia. St. Mark was dragged through the streets of Alexandria, in Egypt, till he expired. St. Luke was hanged upon an olive tree in Greece. St. John was put in a caldron of boiling oil at Rome and escaped death. He afterward died a natural death at Ephesus, in Asia. St. James the Great was beheaded at Jerusalem. St. James the Less was thrown from a pinnacle or wing of the temple, and then beaten to death with a fuller's club. St. Philip was hanged up against a pillar at Hierapolis, a city of Phrygia. St. Bartholomew was flayed alive by the command of a barbarous king. St. Andrew was bound to a cross, whence he preached to the people until he expired. St. Thomas was run through the body with a lance at Coromandel, in the East Indies. St. Jude was shot to death with arrows. St. Simon Zelotes was crucified in Persia. St. Matthias was first stoned and then beheaded. St. Barnabas was

stoned to death by the Jews at Salarnis. St. Paul was beheaded at Rome by the tyrant Nero. St. Peter was crucified, head downward it is said, during the Neronian persecution.

#### MRS. ANNE ROYALL.

NATCHEZ, Miss.  
Give a brief biography of Mrs. Anne Royall, author of "The Black Book," published some fifty-five years ago.

C. L. SCHLETTE.

*Answer.*—Mrs. Anne Royall was a native of Virginia. When a child she was stolen by the Indians, and was held in captivity by them for about fifteen years. Soon after her release she married Captain Royall, and removed to Alabama. Her husband taught her to read and write, and she manifested a very clever literary talent. Some years later she took up her residence at Washington, where she became well known as the editor of the Washington *Paul Pry*, and later, of the *Huntress*. She also wrote several books: "Sketches of History, Life and Manners in the United States;" and two subsequent volumes on the same subject, called "The Black Book;" "Southern Tour," or second series of "The Black Book," and a novel, "The Tennessean;" and "Letters from Alabama." She seems to have been a "holy terror" in Washington in her time, for the member of Congress who refused to subscribe to her paper or buy her books was sure to be fiercely castigated in her paper, and to have all his family affairs and the peccadilloes of all his relatives shown up in the worst possible light. She was a pioneer in the business of personal and impertinent journalism, which has since become such a thriving trade in this country.

#### TERRESTRIAL MAGNETISM.

BOLAN, Iowa.

What is it that attracts the needle of the compass?

I. THON.

*Answer.*—The phenomena of terrestrial magnetism are explained by regarding the earth as a great magnet of irregular structure, so that its magnetism is somewhat unequally distributed over the entire mass. Spheres have been formed of large masses of loadstone, which so act on small dipping needles carried over their surface as to give results approaching in character the irregular lines expressing the magnetic elements of the earth. The supposition that the earth was a great magnet was first advanced by Dr. William Gilbert, who was Queen Elizabeth's physician, in 1600. Though there have been a number of hypotheses concerning the distribution of the centers of magnetism through the earth's mass, philosophers are generally agreed that Gilbert's hypothesis is correct. The "dip" of the magnetic needle which locates the magnetic pole was first noted about 1576. In the northern hemisphere the north end of the needle points downward, making an angle with the horizon; in the southern hemisphere the south pole of the magnet points downward. This is what is called the dip of the needle. This downward inclination amounts, at the latitude and longitude of New York, to an angle of 73 degrees with the horizon. If the needle is carried northward and westward from this point its dip is seen to increase, until, having reached latitude 70 deg. 5 min. north, and longitude 96 deg. 46 min. west, we reach a point where the needle takes an exactly perpendicular



position. This phenomenon was first noted by Commodore Ross in 1832, and this point is called the north magnetic pole of the earth. It is inferred from observations on the dip in the southern hemisphere that a south magnetic pole—where the needle will be vertical with the south pole downward—exists about latitude 70 deg. south and longitude 125 deg. east of Greenwich, but no explorer has ever reached this point. There is also a line about midway between these two poles, where the needle does not dip, but holds a truly horizontal position. This is known as the magnetic equator. It is a very irregular line, passing around the earth in the tropical regions, and crosses the geographic equator at four points. It has been located with considerable accuracy by observers.

## THE HOLLAND LAND COMPANY.

RECTOR, Ark.  
Give a history of the Holland Land Purchase, stating when the United States ever made any purchase of land from Holland, and where the land was situated.

W. F. KEASTER.

*Answer.*—The United States never bought any land from Holland. But the reference above is probably to the possessions of what was called the Holland Land Company of New York. When the Territorial disputes between Massachusetts and New York were finally settled, in 1786, the former State ceded all her claims to land west of the Hudson River, except a pre-emption right to about 5,000,000 acres, which included Genesee County and adjacent territory. This land was soon after sold by the State to two New York gentlemen for \$1,000,000. These extinguished the Indian title to part of the land, surveyed it into townships, and sold a large share of it to speculators and actual settlers. Robert Morris became later a large purchaser of the land and resold several tracts of it, but finally had to mortgage an immense tract to one Wilhelm Willink, of Amsterdam, and eleven associates, called the Holland Land Company. This company foreclosed the mortgage, secured full title to the land, and opened their first land office in Batavia, N. Y., in 1801. This foreclosure was the financial ruin of Robert Morris and caused him to be thrown into a debtor's prison, where he remained for some time. The tract held by these Hollanders was known in its vicinity as "The Holland Purchase," even until long after the company sold out their last share of the land in question, in 1805.

## ANDREW JACKSON DAVIS.

WOODBIDGE, D. T.  
Give a sketch of Andrew Jackson Davis. Are his works growing in popularity? Is he living, and where?

W. H.

*Answer.*—Andrew Jackson Davis was born in Blooming Grove, N. Y., Aug. 11, 1826. In 1843, while he was a shoemaker's apprentice in Poughkeepsie, he first developed his clairvoyant powers under mesmeric influence. Soon after this he adopted the business of a magnetic healer. He claimed in 1844 to have lain in a trance sixteen hours and in that state to have conversed with invisible beings. His first work, "The Principles of Nature," was dictated in the supposed clairvoyant state in 1845. This pretended to be a spiritual revelation. He has written a large number of other works, all in the same vein, abounding in trite repetitions, together with startling asseverations concerning

the unseen world. He claims that all the matter of these books has been imparted to him by spirits. He has also done some business as a lecturer. We think these books have rather lost than gained in favor with the increase of educated communities in this country. Mr. Davis is still living; he resides in Orange, N. J.

## FORTY-FIRST WISCONSIN INFANTRY.

DOVER, Neb.  
Give a history of the Forty-first Wisconsin Infantry. Did it see any active service, and, if so, where?

F. R. HOYEBOOM.

*Answer.*—The Forty-first Regiment was one of the 100-day regiments. It was organized at Milwaukee, under the command of Lieutenant Colonel G. B. Goodwin. It was the latest of three 100-day regiments to be organized, and never had a sufficient number of men to be entitled to a colonel. The regiment, as constituted, left for Memphis June 15, 1864, and participated in the fight with the rebels when they made a raid on Memphis in August. It suffered no loss, however, in the action, being posted in the rear of the other 100-day men engaged. The regiment saw no other fighting, and was mustered out in the latter part of September.

## FIRST WISCONSIN CAVALRY.

LARIMORE, D. T.  
Give a brief history of the First Wisconsin Cavalry?

T. W. LAW.

*Answer.*—The work of recruiting for this regiment began in the summer of 1861, but its last company was not mustered in until March 10, 1862. A few days later it was dispatched to Missouri. It was set to work immediately at scouting, and through the summer and fall, and for most of the winter, was actively engaged in pursuit of the enemy through Missouri and Arkansas, and had many sharp skirmishes. In the pursuit of Marmaduke from Cape Girardeau to the St. Francis River in April, 1863, it took especially prominent part. May 31 it was sent to Tennessee, and joined the army of General Rosecrans. In the battle of Chickamauga its men were in the reserve. They took part in some important scouting expeditions up the Sequatchie Valley, and at the fight at Dandridge, Jan. 14, 1864, they lost thirty-two men in killed and wounded. In May they advanced to take part in Sherman's Atlanta campaign, and shared in all the important battles preceding the capture of that city. After Atlanta fell, the Fourth Wisconsin took part in the cavalry expedition which forced its way through Alabama, capturing Selma, Montgomery, and Macon. Lieutenant Colonel Harnden, in command of the First Cavalry, was then ordered to proceed in search of Jefferson Davis, who was supposed to be in the vicinity. He set out with 152 picked men, and probably would have effected the capture had he not been, through a mistake, forestalled by Colonel Pritchard, of the Fourth Michigan Cavalry. The regiment left Macon in May and was mustered out at Nashville, July 19.

## JOHN HOWARD PAYNE.

AUBURN, Cal.  
Give a sketch of the life of Payne, author of "Home, Sweet Home."

C. Y. SHANE.

*Answer.*—John Howard Payne was born in New York, June 9, 1792. He showed a remarkable precocity of talent. When but 10 years of age, when a clerk in a New York counting house, he edited

weekly journal entitled the *Thespian Mirror*, and in 1807, when he was a student in Union College, he published twenty-five numbers of a periodical entitled *The Pastime*. He made his first appearance on the stage in New York, in 1809, as "Young Norval," subsequently acted in other cities with more or less success, and in 1813 made his debut in London. For nearly twenty years he lived in England, gaining a somewhat precarious support as actor, manager, and playwright. He translated French plays and produced original plays and adaptations, including "Brutus," "Therese," "Clari," and "Charles the Second," which had considerable success. "Brutus," which was produced in 1818 with Edmund Kean in the principal part, is still a favorite play on the stage. "Clari," which was brought out as an opera, contains the celebrated song of "Home, Sweet Home." Of all Payne's numerous writings this alone has rescued his name from oblivion. In 1832 Mr. Payne returned to the United States, and in 1841 was made American consul at Tunis, and held this position at the time of his death, April 10, 1852.

#### THE WEEK—SABBATHS.

TRIADLEPHIA, Ohio.  
How many of the ancient nations had the division of the week of seven days? What days are kept as Sabbaths by the different nations of the world?  
C. H. ALOR.

*Answer.*—The week existed as a civil institution among the Semitic nations from the earliest times. It was probably first instituted as a broad subdivision of the lunar month, corresponding to the four quarters of the moon, or about seven and three-eighth days. The Hindus, Persians, Chaldeans, and Assyrians had such a division, but only the Jews, as far as we know, attached a religious signification to the seventh day. It is known that the Egyptians from a very early time counted seven periodical days, and named them according to the seven planets. This nomenclature of the days, together with the seven-day division itself, was imported from Alexandria to Greece. The Greeks had, previous to this time, divided their months into decades, periods of ten days each. The week of seven days was adopted by the Romans about the time of Christ. Before this the Romans had counted their time by eight-day periods, and the eighth day was a sort of holiday, a day on which country people were in the habit of coming to the towns to transact business and inquire after public news. The readiness with which the seven-day division and the planetary names of the days were adopted by the Romans was probably owing to the rapid spread of interest in Egyptian astrology among the people. In the ancient Brahminical astronomy, the week is also recognized and the names of the days are from the same planets and in the same order as those in use by the ancient Egyptians, but the week began with them with the day of Venus or Friday. The Egyptian week began as that of the Hebrews did, on Saturday. The week of the Chinese and Tibetans has but five days, which are named after the five elements, iron, wood, water, feathers, and earth. But the Chinese have no Sabbath or rest-day, and seem to have no conception of the need or desirability of such a day. At the present time the Mohammedans

keep Friday as their rest-day or Sabbath, the Jews and a few minor Christian sects observe Saturday, while the rest of the civilized world distinguish Sunday from the other days as a time for rest, religious exercises, or pleasure.

#### UNITED STATES SUPREME COURT.

BURKE, N. Y.  
Give origin and short account of the Supreme Court of the United States, its officers, terms of office, and other facts of interest about it.

FRED M. JOHNSON.

*Answer.*—The Chief Justices of the United States, with the succession, have been as follows:

Chief Justice.	Appointed from.	Term of Service.
John Jay.....	New York.....	1789-1795
John Rutledge.....	South Carolina.....	1795-1795
Oliver Ellsworth.....	Connecticut.....	1796-1800
John Marshall.....	Virginia.....	1801-1835
Roger B. Taney.....	Maryland.....	1836-1864
Salmon P. Chase.....	Ohio.....	1864-1873
Morrison R. Waite.....	Ohio.....	1874

It will be borne in mind that John Jay resigned and that John Rutledge presided one term of the court, and his appointment was not confirmed by the Senate. The Supreme Court as now constituted is as follows:

Justice.	Appointed from.	Commission.	Salary.
Morrison R. Waite.....	Ohio.....	Jan. 21, 1874.....	\$10,500
Samuel F. Miller.....	Iowa.....	July 16, 1862.....	10,000
Stephen J. Field.....	Califor.....	March 10, 1863.....	10,000
Joseph H. Bradley.....	N. Jersey.....	March 21, 1870.....	10,000
John M. Harlan.....	Kent ky.....	Nov. 29, 1877.....	10,000
Stanley Matthews.....	Ohio.....	May 12, 1881.....	10,000
Horace Gray.....	Mass.....	Dec. 20, 1881.....	10,000
Saml. Blatchford.....	N. York.....	March 23, 1882.....	10,000

The Supreme Court, at its first organization in 1790, consisted of a Chief Justice and five Associate Justices; in 1807 it was increased to six members; in 1837 to eight; in 1863 to nine; decreased by death in 1865, again decreased by death in 1867; increased in 1870 to eight, and to nine in 1882, and is now composed of eight members, owing to the death of Justice Woods.

#### GUNTER'S LINE.

KEUKA, Fla.  
Describe the working of Gunter's sliding rule or line.  
T. L. CLARKE.

*Answer.*—What is known as Gunter's line, or scale, is a logarithmic line, usually graduated upon a scale or ruler. It consists of logarithmic numbers, and logarithmic sines and tangents, so graduated that problems may be solved by it instrumentally. It is generally divided into 100 parts, every tenth division being numbered from one to ten. By the use of this line the following problems can be solved: 1. To find the product of two numbers—the space between division one and the multiplier is equal to the space between the multiplicand and the product, the distance in each case being laid off in the same direction. 2. To divide one number by another—the extent from the divisor to unity equals that from the dividend to the quotient. 3. To find a fourth proportional to three given numbers—the space between the first two numbers equals the distance from the third number to the required fourth proportional. 4. To find a mean proportional between any two given numbers—one-half the distance between the less number in the left-hand part of the line, and the greater number in the right-hand part, will extend to the mean proportional sought, if applied forward from the less number, or backward from the



greater. 5. To extract the square root of a number one-half of the distance between unity and the given number, if laid off from unity, will give the point representing the desired root. Similarly, the cube root, or the root of any higher power, can be found, by dividing the distance between unity and the given number by the index of the root, the quotient giving the distance between unity and the point representing the root required.

#### NEW YORK SENATORIAL ELECTION OF 1881.

CHICAGO.

Give a history of the contest to re-elect Senator Conkling after his resignation, during Garfield's administration, including the charges of bribery against his opponents. D. M. R.

*Answer.*—May 14, 1881, Roscoe Conkling and Thomas C. Platt tendered their resignations as United States Senators from New York to Governor Cornell. The reason for this action was the appointment by President Garfield of Wm. H. Robertson as Collector of Customs at the port of New York, in place of E. A. Merritt, removed. Not that the sanction of Senators from any State is absolutely necessary to the President's appointments there, but it has been regarded as a breach of courtesy for a President to make such appointments without consulting with the Senators from the State, especially those of his own political party. Messrs. Conkling and Platt were advised to resign, and then seek an indorsement of their course at the hands of the Legislature. The balloting of the New York Assembly to fill these Senatorial vacancies began May 31. By this time the division between the factions of the party had been greatly widened, and Mr. Conkling's friends had been unable to induce the Republican committee to call a caucus. The first ballot showed but nine votes in the Senate and twenty-six in the House for Mr. Conkling, and for Mr. Platt, eight votes in the Senate and twenty-one in the House. The remainder of the Republican votes, 106 in both houses, was scattering. An attempt was immediately set on foot to consolidate the Republican vote on Chauncey M. Depew. June 9, a sensation was created in the Assembly by Samuel H. Bradley, a Representative from Cattaraugus County, who rose to a question of privilege, stating that Mr. Sessions, a member of the State Senate, had given him \$2,000 to vote for Mr. Depew. Sessions emphatically denied the charge, and a committee of investigation was appointed. The line of defense was that the money had been offered by an agent of Mr. Conkling with the direct object of defeating Mr. Depew through the bribery charge. The investigation committee took a good deal of evidence on the matter, which was not very conclusive, only going to show that Sessions was a likely person to be chosen to offer the money, having acted considerably as a lobbyist, and also that Bradley was a likely man to be approached with a bribe, and facts elicited cast considerable doubt on Bradley's testimony. July 6 the committee presented both a majority and minority report, the first giving the evidence, but withholding comment, as the case had been referred to the courts, and the second denouncing the corruption exhibited in very vigorous terms. The case came up in the Albany Court of Sessions in September of the same year, but it was continued, and was not

finally tried until two years later, when Mr. Sessions was acquitted, Oct. 18, 1883. To come back to the elections of the senators, the balloting was continued for two months, at the rate of one or two votes each day, without material result. The principal candidates of the Half-Breeds (as the anti-Conkling Republicans were called) were William A. Wheeler and Chauncey M. Depew. July 1 Mr. Platt withdrew his name. All of the Republican members of the New York Legislature, who no longer continued to adhere to Mr. Conkling, then united in a call for a caucus, which was held July 8. Mr. Depew withdrew his name for the sake of harmony. Mr. Wheeler's name was also withdrawn, and the caucus then settled upon Warner Miller and Elbridge G. Lapham as its candidates for the long and short terms respectively. Mr. Conkling's friends refused to acknowledge this caucus, and the deadlock continued for a week longer. At last it was broken, July 16, by the withdrawal of nine men from Mr. Conkling's friends, and the election of Miller to succeed Platt, by a vote of 76 to 69. July 22, the force of the opposition was so far overcome that the election of Lapham was carried by a vote of 92 to 42.

#### FOX-FIRE OR PHOSPHORESCENCE.

BENEDICT, Kan.

What is fox-fire, or what causes rotten wood to glow?

A. J. FLINN.

*Answer.*—There are five kinds of phosphorescence, as generally recognized by those versed in the science of nature or of natural objects: 1. Spontaneous phosphorescence; 2. Phosphorescence resulting from heat; 3. From mechanical action; 4. From the action of electricity; 5. By insolation or exposure to the light of the sun. To the first class belongs what is properly called fox-fire. The phosphorescence of decaying fish and other animal matter and of wood, is due to a peculiar species of slow combustion, by which vibrations are excited capable of transmitting luminous rays.

#### SIR JOHN MOORE.

JEWELL, Kan.,

Give a brief biography of Sir John Moore.

W. C. COFFMAN.

*Answer.*—Sir John Moore was the son of a Scottish author of some note, and was born in Glasgow Nov. 13, 1761. He received a commission in the army when but 15 years old, served in Minorca, and afterwards in America until 1783. Being promoted, he went to Gibraltar in 1793, as lieutenant-colonel of his regiment. In 1794 he was sent to Corsica, where he distinguished himself and was wounded. After aiding in the capture of the island of St. Lucia in the West Indies, he was made Governor there, and completely subdued the bands of insurgent negroes, but on account of ill health was obliged to return to England. He served in the Irish rebellion during the next year, however, and in 1799 accompanied the disastrous expedition to Holland, where he was severely wounded. He received two severe wounds while in Egypt, also, in 1801, and on his return from that expedition he was knighted. He afterward went to Sicily; in 1808 went to Sweden to aid in the defense of that country against Napoleon, but having some difficulty with the Swedish King, he was recalled and sent to Portugal. He advanced from Lisbon, in-

tending to co-operate with the Spanish forces against Napoleon. He found, however, that the Spaniards were not ready to aid him, and the rapid advance of the French placed him in a very critical position. He was forced to retreat, but was overtaken by the French at Corunna. Here a desperate battle was fought Jan. 16, 1809, in which the British were at last victorious, but their gallant commander was struck with a cannon ball and died in the moment of victory. A monument has been erected to him on the site of the battle where he fell, another in St. Paul's Cathedral, London, and yet another in his native city, Glasgow, but perhaps his memory has been even more imperishably embalmed in the fine poem written by Charles Wolfe on his burial.

Not a drum was heard, not a funeral note,  
As his corse to the ramparts we hurried;  
Not a soldier discharged his farewell shot  
O'er the grave where our hero we buried.

We buried him darkly at dead of night,  
The sod with our bayonets turning,  
By the struggling moonbeams misty light,  
And the lanterns dimly burning.

\* \* \* \* \*  
But half of our heavy task was done  
When the clock struck the hour for retiring,  
And we heard the distant and random gun  
That the foe was sullenly firing.

Slowly and sadly we laid him down,  
From the field of his fame, fresh and gory;  
We carved not a line, and we raised not a stone—  
But we left him alone with his glory!

#### BURNING OF ROYALTON, VT.

LATHROP, MO.  
Give the history of the burning of Royalton, Vt., by the Indians, and the capture of Belknap and others in Bethel, their imprisonment in Canada and their escape. T. BATES.

*Answer.*—Royalton, Vt., was, in 1790, a thriving village of 300 inhabitants. In October, 1781, an Indian raid was planned by the British. Its object was to attack Newbury, Mass., for the purpose of capturing there Lieutenant Whitcomb, an American officer, who, in 1776, when on a scouting expedition, had shot General Gordon, a British officer, near Chamblay. This act was greatly resented by the British, who hearing that Whitcomb was at Newbury, sent 300 Indians under Lieutenant Horton to capture him. However, hearing that the people of Newbury expected their attack, and were armed to resist them, the marauders gave up their original plan and went against Royalton. They destroyed all the houses on the road thither, burned the village itself, and took a number of prisoners. They were bent on plunder rather than slaughter, and therefore made no attempt at a general massacre, or to prevent the escape of the majority of the inhabitants. The white people at first fled in terror, then rallied, organized themselves into a band and followed the Indians, who were now retreating. Coming up with them, the Indians sent word that if they were attacked they would tomahawk all their prisoners, but if allowed to retreat in safety they would set them all free. While the whites were discussing what course they should take, the Indians got away. Hutchinson's history of Vermont says that

of twenty-eight prisoners taken on this raid two were tomahawked, one died in captivity, and the others were all liberated after they had passed over into Canada. He mentions Belknap as one of the Royalton prisoners. He does not speak of any attack on Bethel at this time, but mentions a raid made some months previous, in August, 1781, when the Indians carried off three captives from Barnard and one from Bethel, taking them to Montreal. Of these he says that two of the Barnard men escaped, but he does not give the manner of their escape, nor does he tell the fate of the others.

#### CHICAGO STRIKES IN 1886.

SHARON, ILL.  
Give an account of the strikes in Chicago in 1886, their beginning and cause. O. J. N.

*Answer.*—There were several strikes in Chicago in 1886, the first one leading indirectly to the outbreak of the anarchists. Early in March a quarrel between the officers of the Missouri Pacific Railroad Company and the Knights of Labor, because of the discharge of an employe of the car-shops in Marshall, Texas, led to a general strike on all the railroads of the Southwest. Great derangement of business followed the suspension of traffic, and when the railroads attempted to run their trains with employes who were not members of the labor organization certain members of the order endeavored to stop them by violence. While this strike was in progress a general movement began in a number of large cities to reduce a day's work to eight hours without any reduction of pay. This movement was strongest in Chicago and Milwaukee, and in many large manufacturing establishments in these cities the employes "struck" to force the proprietors, if possible, to agree to the reduction of working hours. May 3 there was a riotous attack made upon the McCormick Reaper Works in Chicago. There were about 8,000 people in the mob. The police, when they were summoned to disperse the rioters, were assailed with missiles, and in some instances with revolvers and guns. The police then fired into the crowd, killing and wounding several rioters. The mob then dispersed. From the beginning of these labor difficulties a small band of socialists—who had for some years been teaching by tongue and pen their pernicious and destructive doctrines in this city—had used the opportunity afforded by the general disaffection to be more violent than ever. Their scheme of defiance of law and order culminated in the Haymarket riot of May 4, in which seven policemen were killed or fatally wounded. The prompt arrest of the anarchists and their indictment for murder had the effect of quieting the strike business for a time. June 23, however, another strike was begun among the switchmen of the Lake Shore Road. The cause was the refusal of the company to discharge non-union men, which the strikers said it promised to do at the time of the previous outbreak, though the company denied the promise. This strike was ended, after some little trouble, by compromise, and labor matters were quiet for some time. The anarchist trial was going on, and this gave labor agitators considerable food for thought. The next difficulty was the strike of the butchers and packers of the Union Stock Yards, early in November, on the



eight-hour demand. The employers refused to accede to the demand, and immediately set new men to work in their houses. This strike, as it plainly could result in no good, was ordered off by Mr. Powderly, Master Workman of the Knights of Labor, after it had lasted about eleven days.

#### RELIGION OF THE CHINESE—MISSIONS IN CHINA.

PUNAM, CONN.  
What was the religion of the Chinese when the missionaries first went there? What is the prevalent religion there now? How many missionaries are there in China now, and what denominations?  
A. B. CARPENTER.

*Answer.*—There are three sects in China—Confucianism, Buddhism, and Taoism or Rationalism. All of these are very ancient, and considerably antedate the introduction of the Christian religion into the country. Confucianism is the state religion. The state officers are the priests of this religion and the Emperor is its hierarch, or high priest. State ceremonials are conducted at various seasons of the year, and the sacrifices are offered to the heavens, the earth, the great temple of ancestors, the gods of the land and grain, the sun, the moon, etc. This state religion is little more than a more showy pageant, allied with the symbolism of Confucius, and professing, in so far as it professes anything, the ethical principles that he laid down. It is the sect of the higher classes, principally because it is the religion accepted by the ruling powers. The religion of the Tao, or the supreme reason, was founded by Lau-tse (born 604 B. C., 54 years before Confucius.) According to him, reason is before and superior to all divinities. He recommended retirement and contemplation as the most effectual means of purifying the spiritual nature. The priests of the Tao religion live in temples and small communities with their families, and secure a precarious living by the sale of charms. The religion of the mass of the people is the worship of Fo, or Buddha. But the Chinese, as a people, are very indifferent to religion. They have, indeed, no word in their language to describe religion as we understand it; their only similar word is kiao, which means simply doctrine or creed. The Chinese are generally tolerant of all religious beliefs, because they care so little for religion of any kind. Their three sects have so few distinctive characteristics, that a man may worship at a Buddhist shrine or join in a Taoist festival and still accept all the tenets of Confucius and worship with the State religion. The Buddhist faith was introduced from India about 65 A. D., and obtained a very great influence over the minds of the common people, principally because of its claim to a certain knowledge concerning the nature of the gods and a future state, for on these points the religions of Confucius and Tao offered simply negations. There are also Mohammedan communities in China, and temples for the followers of Lamaism, the religion of Thibet. But the one real religion of the Chinese, though it does not bear that name, that in which more than anything else they trust, and to which they look for consolation and reward, is the worship of deceased ancestors. Dr. Williams says: "The doctrines of Confucius and the ceremonials of the state religion exhibit the speculative, intellectual

dogmas of the educated literati and thinkers, who have early been taught the high ideal of the Princely Man set forth by their sages. The tenets of Lau-tse and the sorcery and incantations of his followers show the mystic and marvelous part of the popular belief. Buddhism takes hold of the common life of man, offers relief in times of distress, escape from a future hell at a cheap rate, and employment in a round of prayers, study, or work, ending in the nirvana. But the heart of the nation reposes more upon the rites offered at the family shrine to the two 'living divinities' who preside in the hall of ancestors than to all the rest." There is no doubt that the attempt to uproot or forbid this worship of ancestors has been the main cause of the outbreaks against the missionaries.

As to Christian missions in China, there is good evidence that they existed at a very early date. It is certain that the Nestorians began missions there in the seventh century, and these existed until 100 years after the first entrance of Roman Catholic missions into the country, in the thirteenth century. The latter carried on their teachings until near the close of the fourteenth century, when it is thought that they withdrew into Central Asia. In 1582 they were established in the country again, and they have maintained themselves there ever since, though severe edicts were passed against them in the latter part of the eighteenth century. In 1881 they reported the population of Roman Catholic converts at 1,092,818 souls. They had thirty-four colleges and as many converts, 559 native priests, 664 European priests, and forty-one bishops. The first Protestant missionary in China was sent out in 1807 by the London Missionary Society, an organization of the English Church. Since that date much has been done by Protestant Christians of both England and America, and also of Germany and Holland, belonging to the Methodist, Presbyterian, Protestant Episcopal, Baptist, and other churches. We can not separate their converts by denominations, but may note that they have nearly a hundred stations where missionaries live, and some 550 stations visited occasionally or in charge of native preachers. They have 328 organized churches, and nearly 14,000 church members. They support a number of schools, hospitals, and dispensaries, and have several printing presses in Chinese cities, and issue a number of newspapers and books printed in the Chinese language.

#### A RAINSTORM.

ROCHELLE, ILL.  
Give a description of a rainstorm, with its accompaniments, wind, thunder, and lightning. Give a scientific explanation of the beginning, progress, and end of the storm.  
E. M. BYERS.

*Answer.*—We have recently given our readers a full explanation of the formation of clouds, the source of rain. This vapor, as it leaves the earth, is so attenuated that it is quite invisible. Rising into the colder regions of the atmosphere it becomes more and more dense, until finally condensation restores it to its original form—water—and it falls in rain. The atmospheric movement which we call wind, is produced, first, by unequal pressure of the atmosphere; second, by unequal specific gravity, caused by the lack of uniform warmth in

the mass of the air; and third, by the rotation of the earth. The atmosphere can be quite accurately conceived of as a huge and boundless sea, whose surface is continually, by its own quiet action, heaped up into great billows, between which are corresponding depressions or hollows. The area of depression is less dense than that of elevation, in barometrical phrase it is an area of low pressure, and the natural tendency of the atmospheric surface to equilibrium, causes a rushing of the air waves from denser points to this area. Then the warmer the air is, the more its particles separate themselves, and tend to rise. The colder portion of the air, being heavier, falls; thus the unequal warmth of the earth's surface gives rise to currents of air of immense extent, the colder air flowing under and displacing the lighter. Similarly the different degrees of moisture in different portions of the atmosphere produce disturbance, since the specific gravity of water vapor is only about two-thirds of that of dry air at the same temperature and pressure, and the tendency of the vapor to diffuse itself will naturally produce currents of air, moving from the dryer to the moister regions. The third cause, the rotation of the earth, would have very little effect if there were no other disturbing cause, because the atmosphere would acquire the velocity of that part of the earth on which it rested and retain it. But the other disturbing causes aid in displacing masses of the atmosphere of different velocities, and thus producing winds of greater or less uniformity. Usually speaking, the area of depression of the atmospheric sea is very small compared to the area of elevation. The lower the depression and the smaller its area, the more violent is the storm. The tornadoes which sweep over the West are simply small areas of extremely low pressure accompanied by the cyclonic inrush of air. The movement of the air from a region where it is more dense to one of slighter density always assumes a circular direction, of greater or less violence according to the degree of difference in density. The direct cause of a storm is a strong and extensive upward movement of the air, which causes its vapor to be condensed by the cold of elevation. This movement is caused, perhaps, by an excessive radiation of heat from the earth, forcing the clouds upward by warm ascending currents, as the rainstorms of summer, or by the formation of an area of depression in the aerial sea, into which the air from all sides forces itself and produces the whirling current whose tendency is always upward, forcing overhanging clouds into cooler regions. The general movement of a storm from west to east is due to the rotation of the earth. The beginning and end of a storm may be summarized thus: The movement of the atmosphere toward the area of low barometrical pressure, brings together clouds in masses that gradually become more and more dense. The barometer now begins to fall rapidly, the thermometer rises, and the rain begins to fall. Usually the wind shifts several times during the progress of a storm, and blows with more and more force the more rapidly the mercury sinks in the barometer tube. The clouds grow more and more dense, the sun sets in as mist, and becomes heavier

and more constant. At last, when the barometer has reached its lowest point, which may not be for twelve or fourteen hours after the rain begins to fall, the mercury in the barometer rises suddenly, there is a shifting of the wind, and the mercury in the thermometer falls. The area of low barometer has passed by and the wind soon clears the sky more or less of clouds. When thunder and lightning are accompaniments of a rainstorm, they are caused by the presence of atmospheric electricity. Moist air is a much better conductor of electricity than dry air, and this force acquires much greater intensity by the presence of clouds. Both positive and negative electricity exist in the air, and lightning is believed to be the passage of the electricity from a cloud positively electrified to one having negative electricity or none at all. The movement of the electricity communicates a violent repulsive force to the air, and thus makes a momentary vacuum, into which the surrounding air rushes with such force as to make the sound of thunder.

#### THE FENIANS.

Describe the Fenian organization, and their raid into Canada. CANISTOTA, D. T. S. MARCH.

*Answer.*—The Fenians formed a political association or organization, whose avowed object was the freedom of their native Ireland. It is said that the name comes from the word *Fionna* or *Fianna*, which was a home guard or militia that existed in Ireland somewhere about the third century of this era; and it is further related that its leader was *Fionn* or *Finn*, whom some historians make the same as *Fingal*. The Fenian Brotherhood was organized in the city of New York in the year 1857 by Michael Doheny, John O'Mahony, and Michael Corcoran. James Stephens had at that time developed in Ireland an organization similar to the Fenians, which was called the *Phoenix Society*, which is said to have had in 1858 a membership of 35,000. John O'Mahony was elected the first President. Mr. Corcoran became subsequently a brigadier general in the Union army. When the Prince of Wales visited America in 1860 certain troops known as the "*Phoenix*" Regiment, refused to parade. The leaders in America were very active for several years, with Stephens in Europe; several of them visited Ireland, among them O'Mahony, inspecting many principal points and meeting a number of leaders in Dublin. When O'Mahony returned to America the order became very popular and spread over the greater part of the United States. The order also spread in Ireland. The Fenians had a journal of their own, named the *Irish People*, first issued Nov. 28, 1863, which was bold and strong in its utterances. There had been still greater progress made in the United States when, Jan. 17, 1865, the second Fenian congress met at Cincinnati. Many soldiers friendly to the cause were come home after the war was over, eager for an enterprise like that of Irish independence. The British authorities in December, 1865, seized the office of the *Irish People*, and arrested Jeremiah O'Donovan Rossa, the registered proprietor. Ten others were arrested. A reward was offered for James Stephens, and in several parts of Ire-



land military law was declared. Stephens was apprehended, but escaped from prison and fled to France. A third congress was held at Philadelphia, and the cause was growing in numbers. The friends of the order secured the release by President Johnson of John Mitchel, who was confined a prisoner of State at Fortress Monroe, and he was sent as an agent across the sea. O'Donovan Rossa was tried in Great Britain and sentenced to penal servitude for life. All these and other stirring events led up to the Fenian raid into Canada in 1866, which is fully described in *Our Curiosity Shop Book* for the year 1886. There came to be differences of a serious nature between the various parties in the Fenian organization, and the factions violently assailed each other. After the raid into Canada, and the trial and sentencing of a number of raiders, there were united efforts made to have the imprisoned Fenians released, and a number were set free. It is believed by many that the disestablishment of the church in Ireland, the Irish land bill of 1870, and other measures passed by the British Parliament, were the direct or indirect result of the Fenian agitation.

#### EARLY HISTORY OF CHINA.

CHARLOTTE, Mich.

Give a history of the foundation of the Chinese Empire, with a list of its rulers. D. N. W.

*Answer.*—The history of China dates back nearly five thousand years, but the accounts of the early periods are largely mythical. The Chinese myths begin with Tien-hwang, or Celestial kings. Then came the Ti-hwang, the terrestrial, and Yin-hwang, the human rulers. Were the chronology of the native writers to be accepted, the era of the beginning of Celestial reigns would date back fifty thousand, rather than five thousand years. But mythological history properly closes with the accession of Fuh-hi, about 2872 B. C. It is thought that the Chinese are descended from settlers who came from Central Asia, along the Tarim Valley, and across the desert into Kansuh, establishing themselves along the bend of the Yellow River. Fuh-hi is said to have taught the people cattle-raising and writing, to have introduced the divisions of the year, the institution of marriage, and many other customs. He died after a reign of 164 years. His successor, Shin-nung, during a reign of 140 years, introduced agriculture and medical science. The next Emperor, Hwang-ti, is believed to have invented weapons, wagons, ships, clocks, and musical instruments, and to have introduced coins, weights, and measures. Three kings, whose reigns averaged eighty years in length, and who were elected by the people, followed Hwang-ti. The third of these, Ti-ku, established schools, and was the first to practise polygamy. He was succeeded, in 2357 B. C., by his son, Yao, during whose reign occurred a great flood, which has been regarded by historians as synchronous and identical with the Noachian deluge. Yao reigned 101 years, and greatly improved the condition of the people. His son and successor, Shun, whose reign began in 2255 and ended in 2207, ruled in the same wise manner. Then came Yu the Great, who founded the Hia dynasty. His accession marks an important era in Chinese history. The throne, which had hitherto

been more or less elective, became from this period hereditary in the eldest son as long as each dynasty in turn held the throne. The national annals from this period also assume a more regular and authentic shape, and the reigns of the sovereigns are reduced to a probable duration. It would be impossible to give the names of rulers from this early period, but we may give an outline of the successive dynasties. The Hia dynasty, beginning with Yu the Great, existed 439 years, down to B. C. 1766, under seventeen rulers, the records of whose reigns are very brief. The early kings of this dynasty are said to have reigned justly, but their successors became tyrannical and base, and were finally expelled by a popular uprising in 1766 B. C. The Shang dynasty began with Tang the Successful, and continued 644 years, under twenty-eight sovereigns, down to B. C. 1122. Most of these rulers were both vicious and cruel. The last of them, Chowsin, terminated his miserable career by setting fire to his own palace, to escape the fate of falling into the hands of an enraged mob. The Chau dynasty began with Wu-wang, an able military general, and continued for 873 years, under thirty-five monarchs, an unprecedented length of dynastical rule. The sway of many of these rulers was little more than nominal, and the feudal states increased or diminished according to the vigor of the monarch and the ambition of subordinate chiefs. Among those feudal states was that of Tsin in the northwest, which by degrees became so powerful that it occupied nearly a fifth of the country. The prince of this state carried his encroachments so far as to force the Emperor to do him homage and thus became master of the whole empire and founded the Tsin dynasty, which existed forty-seven years, from 249 to 202 B. C., under three monarchs only. The second of these, Ching-wang, built the great wall of China. Another one of the princes now came into power and established the Han dynasty, which ruled China from B. C. 202 to 221 A. D., under twenty-six monarchs. This dynasty gave to China some able rulers, and witnessed a great advance of the people in civilization. From 220 to 260 the empire was divided into three kingdoms, which were reunited by Wu-ti, the founder of the second dynasty of the Tsin, which held rule 160 years. The Tartars, which had before been repulsed when they endeavored to gain a foothold in the country, now forced their way in and established an independent kingdom in the northern part. Four dynasties—the Sung (420-479), the Tsi (479-502), the Liang (502-557), and the Chin (557-590)—held rule in succession in the southern kingdom, but the period of their reigns is a mere history of wars and domestic revolutions. At last, in 590, the Prince of Sui, one of the northern provinces, having subjected the Tartar kingdom, also conquered the southern empire, and brought the whole country under one rule. This wise and liberal sovereign inaugurated the Sui dynasty, which, however, came to an end by the death of his son in 618. Then came the celebrated Tang dynasty, during whose supremacy—a term of 287 years—China was probably the most civilized country on earth. During this time Europe was wrapped in the ignorance and degradation

of the middle ages, but the inventions, the schools, and the wisely framed laws of China enabled the empire to exert a most civilizing influence on adjacent countries. The first of the Tang emperors were able, temperate, and wise rulers, but the later emperors were weak and inefficient, and their power was finally overthrown in 907. For sixty-three years the empire was torn by the feuds of contending and ambitious princes, until the establishment of the Sung dynasty, in 970. This held sway for 309 years, but during the latter half of this time the northern half of the empire was again held by the Tartar invaders. The south was also falling a prey to the Mongols, Genghis Khan having pushed his way to Peking in 1215. In 1279 the last member of the Sung rulers was driven from his throne, and committed suicide, and the first Mongol dynasty—the Yuen—was inaugurated by the great Kublai Khan. It was during the reign of this ruler that China was first introduced to Western nations by the visit of Marco Polo to the Khan's court. In 1353 a Buddhist priest headed a revolution, overthrew the Mongol rulers, and established the Ming dynasty on the Chinese throne, which held rule for 286 years (1353-1644), under sixteen monarchs. The invasions of the Mantchoos began in 1522. Driven out repeatedly, they yet increased their power by renewed efforts, and at last were victorious, establishing on the imperial throne the Tsing dynasty, the family which is in power to the present time. The table of the present dynasty is as follows:

Name.	Length of reign.	Line of descent.
Shun-chi.....	1653-1661	
Kang-hi.....	1661-1722	Son of Shun-chi.
Yung-ching.....	1722-1736	Son of Kang-hi.
Kien-lung.....	1736-1796	Son of Yung-ching.
Kai-king.....	1796-1820	Son of Kien-lung.
Tau-kuang.....	1820-1850	Son of Kai-king.
Hien-fung.....	1850-1860	Son of Tau-kuang.
Tung-chi.....	1860-1872	Son of Hien-fung.
Kwang-su.....	1875	Cousin of Tung-chi.

The Emperor Tung-chi succeeded to the throne when but 5 years old, the government being under the control of his uncle, Prince Kung, and the two empress regents, the young King's mother and grandmother. Just as the young Emperor began to exercise his authority he died, at the age of 17. His cousin, a child of 4 years, was chosen to succeed by the empresses—who are supposed to have selected an infant that their power might longer continue—and the government of the existing regency was unchanged. The old Empress Dowager, one of the most powerful members of the regency, died in 1831.

#### THE WALLED LAKES OF IOWA.

PERCY, IND.  
Please describe the "Walled Lake" of Iowa.  
M. N. G.

*Answer.*—Along the water sheds of Northern Iowa there are a great many small lakes, varying from half a mile to one mile in diameter. One of these in Wright County, and another in Sac County, have each received the name of "Walled Lake," on account of embankments that completely surround them. It has been generally supposed that these embankments were thrown up by the ancient inhabitants of the country. They are

from two to ten feet high, and from five to thirty feet in width. Some who have examined these, however, declare them to be the result of natural causes only, and ascribe them to the periodic action of ice, aided to some extent, by the force of the waves. The lakes are very shallow, and in winter they often freeze to the very bottom. The ice freezes fast to the earth below, and as in its expansion it acts in all directions, from center to circumference, a certain part of alluvial deposit is forced to the shore, and this going on from year to year, and from century to century, has created the natural embankment.

#### ELECTRIC RAILWAYS.

SIDNEY, Ohio.  
How many electric railways are there in this country and where are they? Describe how the power is applied.  
READER.

*Answer.*—According to an estimate made by an electrical journal several months ago, the electric motor now moves street cars in nearly two dozen cities, carrying an annual average of 3,500,000 passengers. In Montgomery, Ala., electricity is used on eleven miles of road, and the cost is reported by the general manager to be only one-half the cost of horse power. Roads on which electricity takes the place of horses are found in Baltimore, Los Angeles, Port Huron, Detroit, Scranton, Appleton, Wis., and Denver. Electric railways are either in course of construction or under contract in twelve other cities, and in thirty-seven, companies have been formed or other steps taken for the building of such roads. Most of these railways are built on the plan of the Edison Railway, which communicates power by an overhead conductor. No successful method of using storage batteries attached to the cars has yet been tried. See article on "Electric Railways" in Our Curiosity Shop Book for 1886.

#### THE IOWA HALF-BREED TRACT.

MENDON, Mo.  
Tell us where the Half-Breed tract, so called, of Iowa, was situated, and if it is still held by its original owners.  
R. S. NEWTON.

*Answer.*—During the early days of our history, when the only white inhabitants of the West were the agents of the fur companies and other traders, a number of these adventurers married Indian women, and there came to be quite a community of half-breeds in the country. By the terms of the treaty of Washington, Aug. 4, 1824, between the United States and the Sac and Fox Indians, part of Lee County, Iowa, was set apart for the half-breeds. This was a triangular tract of land, containing 119,000 square miles, between the Mississippi and the Des Moines rivers. Its north boundary was meant to be a straight line, a prolongation of the north boundary of Missouri to the Mississippi River, but the surveyor who laid it out took no account of the variation of the needle in laying out his line, and the boundary inclines northward at a decided angle from the Des Moines to the Mississippi. This erroneous line was, however, acquiesced in by the government. By the Washington treaty, the reversion of title to these lands was reserved to the United States, and the half-breeds could not convey the land. But in January, 1834, the government relinquished this right, and the result was a great scramble for the lands. White



men crowded on them, buying claims with whatever they could induce the half-breeds to take; often making them drunk, and then inveigling them into parting with their lands for a hat, a blanket, or some other comparatively valueless article. Of course, there now arose an endless contention about claims, which was settled finally by a decision of the United States District Court in 1841, by which the tract was divided into shares, and claimants were compelled to draw their shares by lot. There are original claimants and their descendants, we are told, who hold the land on this tract by the above title to this day.

#### THE NORTH SEA AND BALTIC CANAL.

MONTEREY, Mo.

Describe the North Sea and Baltic Canal, on which work was begun a few months ago. Has a canal ever been constructed over the Holstein isthmus?

M. C. G.

*Answer.*—This great work was proposed by Emperor William to the Reichstag in November, 1885, and work was begun on it in June, 1887. This work is a government enterprise, and is estimated to cost about \$40,000,000. It will be 197 feet broad at the surface and 83 feet broad at the bottom, with a minimum depth of 28 feet. It will thus allow the passage of the largest ironclads and merchant vessels, and for these it will shorten the direct trip from Hamburg to Lubeck by at least 300 miles. There will be but two locks in the entire course of sixty-two miles, running from the harbor of Kiel, on the Baltic, to Brunsbittel, on the Elbe, a little above Hamburg. The passage of the canal will be made in from eighteen to twenty hours. The great advantages to follow from the successful completion of this will be seen when we remember that vessels sailing from ports on the North Sea to ports on the Baltic have now not merely to travel hundreds of miles out of their course, but have to make the difficult and dangerous passage of the Skagerack and Cattegat, wherein an average of 200 vessels of different nationalities are annually wrecked. Further, in the event of war between Denmark and Germany all commerce between the towns on the North Sea and those on the Baltic might be suspended. There have been several canals across the Danish isthmus projected, and some have been made, but none on any such scale as this modern work. One of these canals, extending from Kiel to Eider, is still in operation. It was dug in 1777-85, and is about 33 yards wide and 10 feet deep, with numerous locks. It is used by small coasting vessels, but is quite too small for the sea-going vessels of modern times.

#### UGANDA.

ONEIDA, Kan.

Give some account of Uganda, its situation, people, etc.

C. SHINN.

*Answer.*—Uganda is a portion of Central Africa, lying on the northwest shores of Lake Victoria Nyanza. It has an area of 30,000 square miles, and a population of nearly 750,000. The lowlands next the lake are covered with dense forests, above these the higher country abounds in grass, and further westward rise lofty hills and rugged mountain ranges. The country for miles back from the lake is actually inexhaustible in fertility, producing all fruits of temperate as well as tropical climes. Henry M. Stanley describes Uganda

and its people very fully in his book, "Through the Dark Continent," which gives an account of the visit made by the explorer to Africa in 1874. King Mtesa was then the ruler of the country. Stanley describes him as a most extraordinary African, with intelligence and natural faculties of a high order. Though in instinct and manners still a savage, he was friendly to white men, and had welcomed the missionaries to the country, and himself had made a nominal profession of Christianity. The people of the country, who call themselves the Waganda, Stanley found to possess some amiable traits, but to be treacherous and cruel, and he said that he looked to Mtesa's influence over his people as the one hope of civilizing them. Some years after Stanley's visit King Mtesa died, and his successor, Mwanga, has shown himself as much disposed to be hostile to the whites as King Mtesa was to be friendly toward them. In June, 1886, he ordered the massacre of all the missionaries and native Christians, among them Bishop Hannington, a prelate of the English church. Such accounts were given of his fierce attitude toward all whites, and the preparations to repel their entrance into his country, that Stanley, in choosing a route for his expedition to Emin Bey, preferred not to take the way by the Uganda country though that was the shortest route to Emin's province. He chose instead, to avoid a conflict with the Waganda by taking the longer route, by way of the Congo.

#### THE BIG TREES OF CALIFORNIA.

ST. ANNE, Ill.

Tell us about the biggest trees in this country.

JACOB ROBINHO.

*Answer.*—There are several groves of Big Trees in California, the most famous of which are the Calaveras grove and the Mariposa grove. The Calaveras grove occupies what may be described as a band or belt 3,200 feet long and 700 in width. It is between two slopes, in a depression in the mountains, and has a stream winding through it, which runs dry in the summer time. In this grove the Big Trees number ninety-three, besides a great many smaller ones, which would be considered very large if it were not for the presence of these monarchs of the forest. Several of the Big Trees have fallen since the grove was discovered, one has been cut down, and one had the bark stripped from it to the height of 116 feet from the ground. The highest now standing is the "Keystone State," 325 feet high and 45 feet in circumference; and the largest and finest is the "Empire State." There are four trees over 300 feet in height, and 40 to 61 feet in circumference. The tree which was cut down occupied five men twenty-two days, which would be at the rate of one man 110 days, or nearly four months' work, not counting Sundays. Pump augurs were used for boring through the giant. After the trunk was severed from the stump it required five men with immense wedges for three days to topple it over. The bark was eighteen inches thick. The tree would have yielded more than 1,000 cords of four-foot wood and 100 cords of bark, or more than 1,100 cords in all. On the stump of the tree was built a house, thirty feet in diameter, which the Rev. A. H. Tevis, an observant traveler, says

contains room enough in square feet, if it were the right shape, for a parlor 12x16 feet, a dining-room 10x12, a kitchen 10x12, two bed-rooms 10 feet square each, a pantry 4x8, two clothes-presses 1½ feet deep and 4 feet wide, and still have a little to spare! The Mariposa grove is part of a grant made by Congress to be set apart for public use, resort, and recreation forever. The area of the grant is two miles square and comprises two distinct groves about half a mile apart. The upper grove contains 365 trees, of which 154 are over fifteen feet in diameter, besides a great number of smaller ones. The average height of the Mariposa trees is less than that of the Calaveras, the highest Mariposa tree being 272 feet; but the average size of the Mariposa is greater than that of Calaveras. The "Grizzly Giant," in the lower grove, is 94 feet in circumference and 31 feet diameter; it has been decreased by burning. Indeed, the forests at times present a somewhat unattractive appearance, as, in the past, the Indians, to help them in their hunting, burned off the chaparral and rubbish, and thus disfigured many of these splendid trees by burning off nearly all the bark. The first branch of the "Grizzly Giant" is nearly two hundred feet from the ground and is six feet in diameter. The remains of a tree, now prostrate, indicate that it had reached a diameter of about forty feet and a height of 400 feet; the trunk is hollow and will admit of the passage of three horsemen riding abreast. There are about 125 trees of over forty feet in circumference. Besides these two main groves there are the Tolumne grove, with about thirty big trees; the Fresno grove, with over eight hundred spread over an area of two and a half miles long and one to two broad; and the Stanislaus grove, in the Calaveras group, with from 700 to 800. There should be named in this connection the petrified forest near Calitoga, which contains portions of nearly one hundred distinct trees of great size, scattered over a tract of three or four miles in extent; the largest of this forest is eleven feet in diameter at the base and sixty feet long. It is conjectured that these prostrate giants were silicified by the eruption of the neighboring Mount St. Helena, which discharged hot alkaline waters containing silica in solution. This petrified forest is considered one of the great natural wonders of California.

#### TREATY WITH MEXICO.

CHICAGO.  
Give the provisions of the treaty with Mexico at the close of the Mexican war. R. G. WILSON.

*Answer*—The treaty between this country and Mexico was ratified at Guadalupe Hidalgo, Feb. 2, 1848. It stipulated the evacuation of Mexico by the American troops within three months, the payment of \$3,000,000 in hand and \$12,000,000 in four annual installments, by the United States to Mexico, in return for the territory of New Mexico and California, and, in addition, that our government should assume debts due to private citizens of the United States from Mexico to the amount of \$3,500,000. The boundary line between the two countries was fixed as follows: The Rio Grande from its mouth to the southern limit of New Mexico; thence westward along the southern and northward along the western bound-

ary of that Territory to the River Gila; thence down that river to the Colorado; thence westward to the Pacific. Mexico also guaranteed the free navigation of the Gulf of California. and the River Colorado from its mouth to its confluence with the Gila. This boundary was somewhat changed by the Gadsden purchase, in 1853, by which the United States gained some additional territory from Mexico.

#### DISTANCES OF THE SOLAR SYSTEM.

LOCKWOOD, Mo.  
How are the distances of planets from the earth and from the sun ascertained? Also, distance from us of the moon and the sun. JOSIE BOND.

*Answer*—The distance of a prominent and far-off object on the surface of the earth can be ascertained without actual measurement. A base line is measured, several miles in length, on a piece of level ground, and this is made the base of a triangle whose vertex is the distant object. The angles at the base are measured; then the other sides, or the distance from the two ends of the base line to the far-off object, are found by the principles of trigonometry. By essentially the same plan the distances of the planets are obtained. In the case of the moon this is not difficult. Observations are made at the same time at both ends of the line which joins the observatory at Berlin, Germany, with that on the Cape of Good Hope, these two places being nearly on the same meridian. The distance between the two points of observation can be known and the angles formed at their extremities can be computed. This being ascertained, trigonometry will give the other angle and the other sides of the triangle. This process is called ascertaining the moon's parallax—the parallax of any heavenly body being its apparent change of position when viewed from two different points, and the measure of this parallax, or the parallactic angle, being the angle formed by lines drawn from the two points to the distant body. The same direct process, however, will not do for measuring the distances of the other planets, or the sun, from the earth. The solar parallax, for instance, is too small to be obtained reliably by direct observation. The most celebrated method for determining it—since 1761, when the astronomer Halley suggested the plan—has been by observation of the transit of Venus. (For explanation of this phenomenon, its times of occurrence, etc., see *Our Curiosity Shop Book* for 1885.) These observations are taken from remote points on the earth's surface. Of observers at these points one sees the planet touch the rim of the sun at a certain time, but the other does not perceive this contact until later. In the interval between these two observations the earth has moved over a certain part of her orbit, and Venus has also moved. Triangles are formed by imaginary lines between the earth, the other planet, the points of observation and of contact, and the laws of geometry will give the measurement of the lines and angles of these supposed figures. This method of ascertaining the distance of the sun is the most noted one, but of late years other methods have been tried. One is by comparing the inequalities in the moon's motion, which are supposed to be caused by the attraction of the earth, with those probably occasioned by that of the sun, and from these deducing the probable distances of the greater



body. Another way is by observation of the phenomena of aberration of light (described elsewhere in this volume) to compute the probable time taken by light to pass from the sun to the earth, and then multiplying this by the known velocity of light. The distance from the earth to the sun being known, the astronomer has a convenient measuring rod, the radius of the earth's orbit, with which he can readily measure off the whole solar system. For instance, take Venus when at a point in her orbit where an imaginary line drawn to her from the sun will be perpendicular, forming a right angle. At the same time, suppose a line to be drawn to the earth from the sun. Now, the angle at the earth can be measured, the angle at Venus is known to be 90 degrees, the distance from the earth to the sun, one side of the triangle, is known, and it is a very simple geometric problem to ascertain the other two sides, which give the distance from the earth to Venus, and from Venus to the sun. All the planetary distances obtained in similar manner can be verified by the wonderful law of the solar system, first discovered by Kepler, which is that the squares of the orbital revolutions of the planets are to each other as the cubes of their mean distances from the sun.

#### LINNEUS, THE BOTANIST.

CEDAR FALLS, IOWA.

A sketch of Linneus, the Swedish botanist, would be appreciated.

J. A. EDQUIST.

*Answer.*—Carl Von Linnæus, the Swedish botanist, was born in the Province of Smaland May 24, 1707. From infancy he showed a passionate love of flowers. His father was a minister and wished to have his son study for his profession, but the lad's instructors at the academy found him so indifferent to the classics that they advised his father to apprentice him to a tailor. Fortunately a physician, having noticed the youth's fondness for the study of physical science, took him into his family and taught him physiology and botany. In 1727 he went to the university and continued his scientific studies. After he left the university he had a hard struggle with poverty until his great proficiency in botany brought him to the notice of some of the noted scholars of the day. In 1731 he was commissioned by the Royal Academy of Science to make a botanical tour of Lapland. He traveled nearly 4,000 miles on foot through this desolate region, and the result of his labor was published in a large volume some years later, though the young botanist was very poorly compensated for it. He now continued the study of medicine, previously begun, and took his degree in 1735. In 1737 he published the first sketch of his remarkable system of plant classification. He now spent three years in Holland, engaged in study and writing. In 1739 he was married and settled in Stockholm as a physician, but a few years later he was offered the professorship of botany in the University of Upsal. He made his position here the most honored office of its kind, and strangers flocked from all parts of Europe, from the British isles, and even from America to study under him. His fame had now spread all over the civilized world, and all the chief learned bodies of both continents eagerly enrolled him among their

members. He now became quite prosperous, and the last twenty years of his life were spent in affluence that gave him ample leisure to pursue his favorite studies, and to write volumes upon them. In 1778 he died, after nearly four years of feeble health, during the latter part of which he was quite incapable in mind as in body. His death was the signal for general mourning in Upsal; a monument was erected to his memory, and the King of Sweden himself pronounced an oration on him before the assembly, extolling his virtues. Linnæus' system for the classification of plants has been generally replaced by more simple methods, but it was noteworthy in that it was the first effort to evolve order from the confusion in which all knowledge of the natural history of plants had been previously involved.

#### VELOCITY OF LIGHT—JUPITER'S MOONS.

MARSH, IOWA.

How is the velocity of light ascertained? What was Roemer's theory on the subject and when was it first propounded?

C. J. LINDLEY.

*Answer.*—One method of computing the velocity of light is by observation of the phenomena of aberration, a full explanation of which will be found elsewhere in this volume. Another mode of ascertaining this velocity is by observation of the eclipses of Jupiter's satellites, or moons. This method was discovered by Roemer, a Danish astronomer, in 1675. The satellites of Jupiter revolve around that planet much more rapidly than our moon does around the earth, and because of the great size of Jupiter and his shadow, three of these moons are eclipsed during each revolution. Very soon after the discovery of the telescope, it was noticed with what accuracy the times of disappearance and reappearance of these satellites could be computed, and a table was made of these times, which was found to be very useful in determining longitudes. It was in endeavoring to improve these tables that Roemer found that the times of the eclipses were not represented by a uniform motion of the satellites. He found that as the earth moved away from Jupiter in its annual course around the sun, the time of the eclipses regularly fell behind the time computed, until the difference reached a total of over sixteen minutes. Then, as the earth approached Jupiter, this difference gradually grew less, until at last it disappeared entirely. This inequality, the astronomer reasoned, could not possibly come from irregularity in the movement of the planet or its moons; its only true cause could be found in the fact that it took time for light to come from the planet to the earth. This time is of course greater the more distant the planet is from the earth. The diameter of the earth's orbit being approximately known, the velocity with which light crossed this orbit could be therefore approximated. The result, as obtained by Roemer, has been corrected by later observers, until it gives with considerable accuracy the velocity of light as about 186,000 miles per second. This velocity has also been measured by various experiments with artificial light, by the use of a revolving wheel or a revolving mirror. The results of all these modes of computation have not been exactly the same, of course, but they have approximated near enough to prove

their value. The velocity of light was long accepted at from 192,000 to 190,000 miles per second. Later estimates make it somewhat less—Foucault, who experimented long with the revolving mirrors, puts it as 186,000—and are probably more accurate. Obviously, in the estimate of such rapid movement, a few thousand miles could not vitiate the computation for practical purposes.

#### COMPARATIVE LIQUOR CONSUMPTION.

Give a table showing how much alcoholic liquor is used per capita in this country and in the various countries of Europe. CHICAGO.  
B. NEUMAN.

*Answer.*—The comparison of the comparative consumption of alcoholic liquor by the civilized nations of the world is a curious study. It shows that no differences of temperature seem greatly to influence it, for the people of cold climates are by no means the greatest drinkers. For instance, the least average consumption per head is in Canada, where the winters are very cold, and the greatest consumption of pure spirits per head is in Denmark, while Norway, close as it is to Denmark in neighborhood and climate, comes only second to Canada in moderation. The following table was compiled by a European authority, but it is believed to be quite correct:

	Spirits. Litres.	Wine. Litres.	Beer. Litres.
Canada.....	3.08	.29	8.51
Norway.....	3.90	1.00	15.30
United States.....	4.76	2.64	31.30
Great Britain and Ireland.....	5.37	2.09	143.92
Austria-Hungary.....	5.76	22.40	28.42
France.....	7.28	119.20	21.10
Russia.....	8.08	....	4.65
Sweden.....	8.14	.36	11.00
German Zollverein.....	8.60	6.00	65.00
Belgium.....	9.20	3.70	169.20
Switzerland.....	9.40	55.00	37.50
Netherlands.....	9.87	2.57	27.00
Denmark.....	18.90	1.00	33.83

The wine consumption of Russia has never been accurately estimated, but it is probably not much less than that of Germany. This estimate is given in litres, a litre being a little over one quart of our measure. The table shows that Belgium is far the greatest beer drinker, while Great Britain comes in a good second; and that France is the greatest wine drinker, with Switzerland as a good second. Some of the Teutonic races are among the most abstemious, and others among the most self-indulgent as regards spirits. No general law of any kind appears to suggest itself. Certainly no clew is supplied by the relative condition of education in the various countries. In both Germany and Switzerland, where the popular education is best, the level of alcoholic consumption is very high. Our own country makes a creditable showing on the score of moderation.

#### THE SOUTHERN PACIFIC LOOP.

Describe and locate the famous "loop" on the Southern Pacific Railroad. GALVA, Ill.  
W. F. W.

*Answer.*—The "loop" of the Southern Pacific is on the Sierra Mountains between Majore and Gallente. It is one of the most wonderful exhibitions of engineering ingenuity known. First, the road runs through a tunnel, then it bridges an abyss, and finally crosses over itself, seemingly tying a bow-knot with its iron straps. By these skillful devices it is brought to an elevation of 3,549 feet above the plains. This is the Tehochape Pass,

by which Fremont first crossed the mountain ridge between Northern and Southern California.

#### MUSHROOMS AND TOADSTOOLS.

TOWNSEND HARBOR, Mass.  
Tell us how we can distinguish mushrooms from toadstools. What are the botanical names of the two plants? ANNIE MAY.

*Answer.*—These two classes of fungi belong to the same genus. The name mushroom is given by botanists to all the species, both the edible and the poisonous kinds, but in this country the popular name applied to all the poisonous varieties is toadstool, while only those which can be eaten are called mushrooms. The botanical name of the genus including both is *agaricus*. The mycelium, or spawn, of this fungus, consists of white cotton filaments which spread in every direction through the soil. The toadstool has its natural home in decaying vegetable matter, on dead trees in forests, among rotten leaves, etc. The mushroom flourishes most vigorously in the manure of horses and cattle, having there a spontaneous growth, as the spores of the fungus are eaten by animals and germinate in their droppings. If the gills of one of these fungi—that is, the thin plates or leaves that are attached to the under side of the cap—are examined under a powerful microscope, their surface will be seen to be studded with cells which contain the spores. When the fungus arrives at maturity, these cells open and the spores, in the form of fine dust, are thrown out. The color of this dust is one of the characteristics by which the variety of the genus is known. No single particular will fully distinguish the poisonous from the edible kinds of this fungus, nor can any description furnish an absolute test for recognizing them. But any one, after handling several species, can learn by smell and touch to pronounce upon the edible varieties, and those of less experience had better acquaint themselves with the characteristics of the common mushroom and avoid all others as dangerous, because doubtful. This mushroom, whose botanical name is *agaricus campestris*, only grows in stable yards, or in pastures where animals feed. It has a white, firm stem, solid or slightly pithy in the middle, but never hollow. It is of medium size, its cup very seldom exceeding four or at most five inches in diameter at maturity. The cap is fleshy and firm, never thin and watery; on the outside it is of a pale brown color, dry, often slightly silky, but never moist or sticky. The outside skin of a mushroom peels off readily from the flesh beneath. The cup has a narrow dependent margin or frill. When the mushroom first appears above ground, it has a round button-head, the skin of the cap being attached to the stem. As it grows the cap expands and this skin is torn away, leaving a fragment in the form of a ring around the stem, and the frill above mentioned on the cap. When the cap opens the gills underneath are white; soon after they become pink; later they are chocolate-colored, and at last are brown-black. On being cut or broken the flesh of a true mushroom is seen to be white, and it remains white or nearly so after being some time exposed to the air, while the flesh of a toadstool in such case will turn dark-colored almost immediately. A point also to be noted is the attachment of the gills; in mushrooms they are



nearly or quite free from the stem; they never grow against it or run down it; there is usually a distinct separation all around the top of the stem up to the cap. The spores thrown off by a true mushroom when quite ripe are of a purplish-black color. The mushroom has also a pleasant characteristic smell, by which those who know it can readily distinguish it. One of the most familiar varieties of toadstools, or poisonous mushrooms, is the agaricus fastibiles. This fungus usually grows in woods or under hedges in meadows. It has a thick, fleshy cap, white above, moist and clammy to the touch, and a decidedly disagreeable odor. There is no ring about the stem, nor any frill about the cap, and the gills, which are clay colored, or light brown, distinctly touch and grow on the solid or pithy stem. The young growth of this fungus has always an open cap, never a button head, as the true mushroom has. The unpleasant odor, the yellowish gills, and the moist outside skin, ought to warn persons of the poisonous nature of this variety, though it may be found, as indeed it often is, in the near vicinity of the true mushroom. Another toadstool which more nearly resembles the mushroom, is the agaricus cervinus. Its outside skin is of the same whitey-brown hue, and its gills are pink also, and are free from the stem, like those of the mushroom. But the latter do not turn brown at maturity, the cap is not thick, but thin, the gills are rather spreading, and there is no ring about the stem. This variety, however, grows only on decaying wood and stumps in forests, where the true mushroom is never seen, so that only a person quite ignorant of the habits of this variety is in danger of mistaking the one for the other. The horse mushroom, which grows very abundantly in the Southern States, has characteristics that make it resemble both the mushroom and the toadstool. It is not exactly poisonous, but is very coarse food, and persons with delicate stomachs are often seized with vomiting after eating it. It grows with a button-head; the stem has a ring and the cap a frill, produced by the bursting of the button on its edges; the gills are brownish white, and the flesh turns yellowish brown on being broken. But the most striking characteristic of this mushroom is its size, as it often grows to be more than a foot in diameter. We may say in conclusion, that in cases of poisoning by toadstools immediate medical advice should be secured, if possible. The dangerous principle is a narcotic, and the symptoms are usually great nausea, drowsiness, stupor, and pains in the joints. A good palliative is sweet oil; this will allay any corrosive action of the throat and stomach, and usually causes vomiting, and thus throws the poison from the system.

#### THE SHORTEST AND LONGEST RAILROADS.

NEWTON, Mich.

Can Our Curiosity Shop tell which is the longest railroad in this country and which is the shortest, and give the length of track for both?

READER.

*Answer.*—The longest railroad, including all divisions and branches, is the Chicago, Milwaukee and St. Paul Railway, whose total length of lines operated Dec 31, 1886, was 5,297.74 miles, though its main line is only 420 miles in length. But the

longest single line of road operated by one company is the line of the Northern Pacific from Duluth, Minn., to Wallula Junction, Wash. T., a stretch of 1,651.60 miles. The smallest regularly incorporated railroad in this country is said to be the New York Central, Hudson River and Fort Orange Railroad, built for the purpose of carrying freight to and from the Fort Orange Paper Company's works. The main track is but 3,168 feet in length, and the rolling stock consists of a locomotive and one passenger coach. The road, however, has a full set of officers and board of directors, and issues a yearly official report. The gross earnings of the road amount to nearly \$3,000 a year, but all of this, except about \$60 or so, is consumed in paying the expenses of the road.

#### WINSLOW, THE FORGER.

HARPER, Iowa.

Give an account of the crime of the Rev. E. D. Winslow. Why was he never brought to justice?

R. M. J.

*Answer.*—In January, 1876, great excitement was created in New England by the discovery that the Rev. Ezra D. Winslow, of Boston, an eloquent preacher, and a great favorite in high society circles, had been forging in business transactions to the amount of several hundreds of thousands of dollars. The criminal fled to New York, and thence made his way secretly to Rotterdam, relying for his safety on the fact that no extradition treaty existed between the United States and the Netherlands. A few weeks later, however, he was found in London, where he was arrested on behalf of the United States. But the British government refused to surrender the man, without a distinct stipulation that the fugitive should not be tried for any offence except that for which he had been extradited. A long correspondence followed, during which Winslow was released on some technicality and again escaped to the continent. President Grant sent a message to Congress in June, 1876, stating the facts of the case and saying that he would not in future, without the command of Congress, take any action under the treaty of 1842. Congress did not make a movement in the matter, and the British government, a few months later, decided to recede from its position, that the treaty might again become operative. But it was not efficient enough to procure the arrest of the clerical forger.

#### LONGEST STREET-CAR LINE.

ROSS, Ohio.

What city has the longest street-car line, and its length?

B. M. Y.

*Answer.*—The longest street-car line in the world is now in process of construction in the Argentine Republic. It is so much longer than any other line that it quite dwarfs the eight and ten mile roads of our cities. It is also the only street-car line in the world which uses sleeping-cars. The road has 200 miles of track, connecting a number of towns in the vicinity of Buenos Ayres. Horses are used there as motive power instead of steam, because fuel is dear, horses cheap, and the people are slow. Two tons of coal will buy a horse and harness. The equipment for this road has been entirely furnished by a Philadelphia car company. The sleeping cars are a curiosity. They are four in number, eighteen feet in length,

and are furnished with four berths each, which are made to roll up when not in use. The cars are furnished with lavatories, water-coolers, linen presses, and other conveniences, and are finished throughout with mahogany. The other cars are four double-decked open cars, twenty platform cars, twenty gondola cars, six refrigerator cars, four poultry cars, furnished with coops, eight cattle cars, two derrick cars for lifting heavy material, and 200 box cars.

#### THE CHISHOLM TRAGEDY.

Give the circumstances of the Chisholm tragedy. PECATONICA, Ill.  
D. SHEPARD.

*Answer.*—In April, 1877, John W. Gully, of De Kalb, Miss., was killed by some unknown person. He had been a strong political opponent of Judge Chisholm, one of the leading Republicans of the district, and the story was circulated that the judge was the instigator of the murder. He was therefore arrested, and his family, consisting of his wife, his son, (a young man) a daughter 18 years old and a little boy, insisted upon accompanying him to jail. On the morning of Sunday, April 29, a mob gathered at the jail for the declared purpose of seizing and lynching the judge. The guard at the jail was terrified and left. The mob broke in and fired repeatedly at the judge. A shot struck the little boy, killing him, and the daughter in attempting to protect her father received several shots. The judge, attempting to beat back the crowd, was at last killed. The mob now dispersed rapidly, and the rest of the Chisholm family returned to their home. The heroic young daughter died a few days later from the effect of her wounds. The perpetrators of this dastardly crime were never brought to justice.

#### THE KEELY MOTOR.

Describe and give the true nature of the Keely motor. BENTON, Mich.  
B. C. S.

*Answer.*—The inventor of the Keely motor claims that he has discovered a hitherto unknown force, which will accomplish more than any other force now known. He has thus far claimed to keep the nature of this force a profound secret. Experiments have shown to a chosen few the action of this force, but nothing concerning its nature has yet been revealed. There is naturally considerable skepticism with regard to a discovery which insists upon veiling itself in darkness so long, and the opinions of skilled engineers concerning the manifestations of the occult force that have been vouchsafed are not encouraging. Mr. Edison says that nothing has been done yet by the Keely motor that could not be just as well done by compressed air. A practical engineer who has seen the Keely motor at work says that it "is clearly nothing more nor less than the generation of an elastic condition of air, gas, or vapor produced by causing the molecules of the gas acted upon to vibrate violently in a containing vessel, from whence it is allowed to escape in this strained condition, in order to produce a development of power in any way desirable." Mr. Keely claims to bring something out of nothing. Yet it is plain that the vibration of vapor or gas which starts his machine is itself started by means of heat or similar force. Further, he claims to be the discoverer of etheric

vapor, an invisible gas pervading all space, yet it can be proved that this vapor was known and acknowledged long before Mr. Keely was born.

#### FIRST ASCENT OF MONT BLANC.

CASCADE, Iowa.  
The centenary of the first ascent of Mont Blanc was mentioned in the dispatches some time ago. When was this done, and by whom? R. V. T.

*Answer.*—Mont Blanc, the highest peak of the Alps, was first ascended by Jacques Balmat and Dr. Paccard in August, 1786. Young Balmat subsequently adopted the work of a guide, and assisted hundreds of companies up the mountain. Forty-seven years after his first ascent, at the age of 71, Balmat was killed by a fall over a precipice. He guided some of the most illustrious scientists of the day in the perilous ascent and descent of the mountain. He was called by the novelist Dumas the "Columbus of the Alps." Aug. 28, 1886, the centenary of this first ascent was celebrated by some of the members of the Alpine Club, and arrangements were made for the erection of a statue to Balmat. The Swiss government gave the ground in the village of Chamounix, and the work of making the monument was assigned to a noted French sculptor. The monument is to be bronze, representing Balmat in his mountaineer's dress showing the highest point of the mountain to De Saussure, the German savant, who in 1787 first fixed the height of the mountain.

#### FIREPROOF WOOD.

Give a method for rendering wood quite fireproof. MONROE, Mich.  
READER.

*Answer.*—The following is one of the best methods known for making wood incombustible: Soak 27.5 parts by weight of sulphate of zinc, 11 of potash, 22 of alum, and 11 of manganic oxide in lukewarm water in an iron boiler, and gradually add 11 parts by weight of 60 per cent sulphuric acid. The wood to be prepared is placed upon an iron grating in an apparatus of suitable size, the separate pieces being placed at least an inch apart. The liquid is then poured into the apparatus, and the wood allowed to remain completely covered for three hours, and is then air-dried.

#### ONE HUNDRED AND FORTY-FIRST ILLINOIS.

GRATIOT, Wis.  
Give a full account of the One Hundred and Forty-first Illinois Volunteer Infantry. Who were its officers? F. W. B.

*Answer.*—The One Hundred and Forty-first Illinois Infantry was one of the regiments of "One Hundred-day Men," offered to the government in the spring of 1864 by the Governors of Ohio, Indiana, Illinois, and Iowa. Of the total of 85,000 men volunteered at this time Illinois furnished thirteen regiments and two battalions. The purpose of these men was to relieve the veterans from guard duty at forts, arsenals, and elsewhere. The One Hundred and Forty-first Regiment was mustered into service at Elgin, Ill., June 16, 1864, with a total of 842 men. It was sent southward June 27. It was stationed at various points and the most of the time was at White Station, Tenn. It was mustered out at Chicago, Oct. 10, 1864. Its officers were: Rollin V. Ankney, Colonel; Martin D. Swift, Lieutenant Colonel; Charles J. Childs, Major; Albert W. Brewster, Adjutant.



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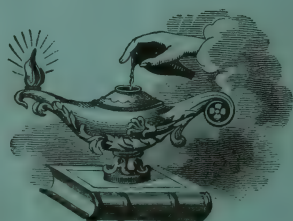


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J. W. Hayward  
Ut. Morris. Ill.  
April 6. 1888.





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1888

# THE INTER-OCEAN



1888.

FISHER-FC

## CURIOSITY SHOP

EDITED BY

THOS. C. MAC MILLAN.

INTER-OCEAN PUBLISHING CO. PUBLISHERS  
CHICAGO.











THE INTER OCEAN  
CURIOSITY SHOP

FOR THE YEAR 1888.

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EDITED BY

THOMAS C. MAC MILLAN, A. M.

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## PREFACE.

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**OUR CURIOSITY SHOP**—the popular department of queries and answers of **THE INTER OCEAN**—now enters upon its eleventh yearly volume. All but two of these annual volumes have been stereotyped. The numbers for 1878 and 1879 are out of print. The remaining volumes have been repeatedly called for by our partial patrons, and to meet this popular demand many editions of each yearly issue since and including 1880 have been published. For the information of the public we would say that **THE INTER OCEAN** is able to furnish any and all of these annual stereotyped issues of **OUR CURIOSITY SHOP** in the present form.

Accuracy has been our scale and condensation our standard in the preparation of **OUR CURIOSITY SHOP** department for **THE INTER OCEAN**. In that draft of the contributions intended for the columns of the paper, our purpose has been never to duplicate articles which have appeared in previous issues of **THE INTER OCEAN**. This rigid rule has been adopted to maintain the interest and value of the department, to give our readers always the newest and the best, and to make these annual books, when issued, just what they have been called—everybody's encyclopedia of useful and curious information not to be found in any other volume issued from the press. We believe the aim of **OUR CURIOSITY SHOP**—to furnish reliable information in a popular and concise shape, on all the great questions of the day, as well as on history, biography, politics, religion, the arts, and the sciences—has been attained. Great care and attention have been given to bringing down to the present time, whenever possible and necessary, all records or data on any given subject. And this leads to the remark that it is often easier to answer a question touching some act or fact of a century since than to reply to some query regarding a matter of last year's history. The records of a hundred years ago are all written, while the chronicles of twelve months ago have yet to be compiled.

The special features of this volume may be indicated here. **THE INTER OCEAN** has frequently emphasized the value of the study, especially among our young people, of United States history. **OUR CURIOSITY SHOP** has devoted much study and space to this most important subject. This volume contains articles on the Ordinance of 1787, the Resolutions of 1798, the Surplus of 1836, the Fugitive Slave Law, the Cabinets of Lincoln and Johnson, the Equalization Bounty Bill, the Fortune Bay outrage, treaties with China, the famous Drivewell case, the Maxwell Land Grant case, etc. Added to these are articles giving a history of the Direct Tax, the Internal Revenue system, the Tariff Planks in the political platforms, chapters on the War for the Union, with histories of States and Regiments, the peace negotiations of 1863-64, the course of Great Britain toward the Confederacy, the Illinois Legislature in 1863, Missouri in 1861, etc. Descriptions and the latest information are given of such great projects as the Cape Cod Ship Canal, the Tehuantepec Ship Railway, and the Hoosac Tunnel. In meteorology, the trade winds and storms on the coast are treated. Those interested in applied science will read attentively such contributions as are devoted to the storage of electricity, the manufacture of white lead and lead pencils, the electro-plating and the photogravure processes, compressed air as a motor, artificial rainbows, etc. If much attention is given to United States history, the stirring present day events in the Old World have been given the compass which their importance seems to warrant. Special articles on the governments of France and Russia, the military service in Europe, the Siberian exile system, the history of the Cossacks and Circassians, the conquest of Ireland, Rome and the Papal power, and the royal families of Russia, Denmark, and Scotland, will all be found unusually interesting at this time. We have here space to mention only a few other special contributions, such as the statistics of the manufacture and consumption of liquors, statistics of railroads, of population, and of tariffs, and some 1,800 other topics.

The Index is comprehensive, correct, and complete. We believe that a book of reference like **OUR CURIOSITY SHOP** is shorn of half its value when its index is defective. The Index of **OUR CURIOSITY SHOP** has been prepared, after years of experience, with the view to make it a ready and reliable reference, and we believe this has been attained.

T. C. M.





## OUR CURIOSITY SHOP.

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### THE LOUISIANA RETURNING BOARD.

TAMPA, Fla.  
Give some account of the Louisiana Returning Board of 1876, with the names and politics of its members.  
O. W. BURGESS.

*Answer.*—In Louisiana, the reconstructed State government established a returning board with judicial powers, to canvass election returns. It has been claimed with apparent truth, that the State constitution of Louisiana in no way warranted the extensive powers granted to this body, but the historian Johnston calls attention to the fact that the United States Constitution directs the appointment of the electors of a State "in such manner as the Legislature thereof may direct." As far as the choice of Presidential electors went, therefore, the limitations of the State constitution had no restraining force whatever over powers granted by the Legislature. The returning board was, by the act of the State Legislature passed in 1872, to be made up of "five persons, elected by the Senate from all political parties," with power "to make the returns of all elections." A majority of the board was to be a quorum, and any vacancy was to be filled by the residue of the board. In cases of violence or bribery in any district the local election officers were to certify the facts to the returning board, these certificates to be sent within twenty-four hours after the election. Within ten days after the election the returning board was to meet in New Orleans and canvass and compile the returns having no certificates attached; then it was to investigate the certificates and take evidence thereon, being empowered to send for persons and papers, and, finally, if convinced that the charges of bribery from any place were sustained, was to throw out the returns from that place. The members of the board were J. Madison Wells, T. C. Anderson, L. M. Kenner, and G. Cassanave, all private citizens except Wells, who was a Federal naval officer at New Orleans, and all Republicans. The fifth member of the board—a Democrat, Oscar Arroyo—had, for some unexplained reason, resigned immediately after the election, and the others refused to fill his place. There being some apprehension that this board would

not conduct its operations altogether "on the square," or that perhaps it might be interfered with, two deputations were sent down to New Orleans—one by the National Democratic Committee, and one by President Grant. The returning board politely invited five gentlemen from each deputation to be present at its meetings, but reserved the right to exclude by its rules other spectators, and to go into secret session for the consideration of "motions, arguments, and propositions." A number of protests were entered against the "secret session" plan, against the continued refusal of the board to fill up their number by the appointment of a Democrat, as provided by the law under which the board was organized, and also against other alleged irregular methods adopted by the board, especially against counting ballots for all the electors, when such ballots only bore the names of part of them. No attention, however, was paid to these protests, they were simply filed by the board, and the work of compiling the returns went on. "It is impossible," says the historian Alexander Johnston, "to give the board's defense of its action in these cases, for it assigned no reasons." Its work was carried on from Nov. 18 to Dec. 6. On the latter date it declared the election of the Republican candidates for State offices and Presidential electors, four Republican and two Democratic congressmen, nineteen Republicans and seventeen Democrats in the State Senate, and seventy-one Republicans, forty-three Democrats, and three Independents in the lower house. Its principal changes had been made by counting for all the eight Hayes electors some 1,200 ballots which bore the names of only three; and by throwing out about 3,000 Democratic and 2,000 Republican votes in parishes where intimidation of the negro vote had been asserted. Soon after the meeting of Congress in December a special committee was appointed by each House, its members drawn from both parties, to make an investigation of the Louisiana election, and sent to New Orleans for that purpose. The officers of the returning board protested against this invasion of the rights of a State by committees of the Federal

Congress, and declined to give up their records, but agreed to allow them to be copied for the committee. Both the House and Senate committees were divided into several sub-committees, to conduct different branches of inquiry, and they spent more than a month in the examination of witnesses and papers both in New Orleans and in other localities. They then returned to Washington, and after some weeks made their reports. Majority and minority reports were made by both the Senate and the House committees, the division being made on strictly party lines. All the Republicans were convinced that the actions of the returning board were legal and right, and all the Democrats were equally firm in their conviction that the board had falsified the result of the election.

#### EIGHTY-THIRD ILLINOIS INFANTRY.

BUTLER, MO.  
Give a history of the Eighty-third Illinois Infantry. W. G. DILLON,

*Answer.*—The Eighty-third Illinois Infantry was organized at Monmouth in August, 1862. It was sent immediately to Cairo, and thence down to Fort Donelson, where it was stationed doing guard duty until September, 1863, taking part in frequent scouts and skirmishes. In the attack by Forrest on Fort Donelson, Feb. 3, 1863, the regiment lost 13 killed and 51 wounded. In September the regiment moved to Clarksville, and while there was engaged in several of General Rousseau's expeditions in pursuit of Forrest and Wheeler. During the year 1864 it had 200 miles of communications to guard, and much heavy patrol duty. During the winter of 1864-65 it was on provost duty at Nashville, Tenn. June 26, 1865, the regiment was mustered out.

#### RUSSIA AND THE RUSSIAN CZARS.

REDESBURG, WIS.  
Please give an outline of the early history of Russia, and a table of the Russian kings or czars, showing their descent. STUDENT.

*Answer.*—The ancient history of Russia is involved in obscurity. It is supposed that the Muscovites, the first inhabitants of the country, were descended from Meshech, the son of Japheth, and the historian Rawlinson says that this tradition rests on very sufficient grounds. The earliest historical trace of the Russian name is believed to be the Hebrew word Rosh, which in reference to Gog, a prince of the Scythians (Ezekiel xxxix. 1), is translated in the English version as chief, but is believed by many scholars to be a proper adjective, corresponding to the word Ros of later Greek historians, or Rus of the Arabian writers, applied to a people of the north. They are classed with the Scythians by early writers. During the migrations of nations in the fourth century the country of the Volga was invaded by hordes of Asiatic and European tribes. Soon after, the name of the Slavs as a race appears, and they seem to have largely settled in Russia, and given their distinctive characteristics to the race springing from their union with the native tribes. In the seventh and eighth centuries the principality of Novgorod came into importance. The inhabitants of this province and neighboring tribes, being greatly harassed by intestine dissensions and invasions from without, sent ambassadors "to the Varig

beyond the sea"—probably the Vikings of the North—to send a chief to reign over them. A prince named Rurik responded to the invitation and came with a band of armed followers to Novgorod. The table of his descendants we give below:

Name of King.	Length of reign.	Line of descent.
Rurik.....	862-879	.....
Oleg.....	879-912	Cousin of Rurik
Igor.....	912-945	Son of Rurik.
Olga.....	945-957	Wife of Igor.
Sviatoslav.....	957-972	Son of Igor.
Yaropolk I.....	972-980	Son of Sviatoslav
Vladimir.....	980-1015	Son of Sviatoslav
Sviatopolk.....	1015-1019	Son of Yaropolk
Yaroslav.....	1019-1054	Son of Vladimir

The reign of King Vladimir is the heroic epoch of Russian history, made famous in their national legends and songs. His successful wars greatly widened the boundaries of the Russian territory. During his reign, also, Christianity was introduced into Russia. Several of the Rurik princes divided the kingdom among their sons, a plan which always ended in failure, through civil wars, and the establishment of one ruler by the extermination of the others. This division of the empire was successful, however, after the death of Yaroslav, and with each succeeding generation the division was further attempted, till the once powerful and united realm became a collection of petty states, continually at war with one another. This condition of things prevailed for over three hundred years. In the thirteenth century came the great Mongol invasion under Genghis Khan and his descendant, Batu Khan, which was marked with slaughter and horrors, and put back the progress of civilization in Russia hundreds of years. The first attempt after this to centralize the administration of government was made by Ivan I., prince of Moscow, in 1328, who was a descendant of the Rurik kings. The line of rulers for some years was as follows:

Name of ruler.	Length of reign.	Line of descent.
Ivan I.....	1328-40	Prince of Moscow.
Simeon.....	1340-53	Son of Ivan I.
Ivan II.....	1353-59	Son of Ivan I.
Dimitri.....	1359-59	Son of Ivan II.
Vasil I.....	1389-1425	Son of Dimitri.
Vasil II. (The Blind)	1425-62	Son of Vasil I.
Ivan III. (The Great)	1462-1505	Son of Vasil II.
Vasil III.....	1503-33	Son of Ivan III.
Ivan IV. (The Terrible)	1533-84	Son of Vasil III.
Feodor I.....	1584-98	Son of Ivan IV.

In the death of Feodor without issue, his only brother Dimitri having been murdered in 1591, there was no legitimate heir to the throne. The people therefore elected Boris Godunoff, who had been the principal manager of state affairs during the reign of the weak-minded Feodor—as their ruler. Godunoff was a noble and the king's brother-in-law, and he is believed to have instigated the murder of Prince Dimitri to clear the way for his own accession to the regal office. But if this charge were true Godunoff had his punishment in a very short lease of power, though he was a wise and capable ruler. A revolt broke out headed by an impostor, who called himself Dimitri, and Godunoff soon after



died suddenly. The pretender was crowned as Czar, but the following year was overthrown by a conspiracy which elevated a noble named Shouisky to the throne under the title of Basil V. Another revolt was begun under a second pretended Dimitri, and King Sigismund of Poland invaded the kingdom and carried off Basil to die in a Polish prison. At the same time the country was devastated by an invasion of the Cossacks. To preserve the State from utter ruin, a popular assembly elected Michael Romanoff as their Czar. The Romanoffs were a powerful family which had been allied by marriage with the previous royal line. Their line as Czars is as follows:

Name of Czar.	Length of reign.	Line of descent.
Michael.....	1613-1645	Son of Michael.....
Alexis.....	1645-1676	Son of Michael.
Feodor III.....	1676-1682	Son of Alexis.
Ivan V.....	1682-1689	Son of Alexis.
Peter I (the Great).....	1689-1725	Third son of Alexis
Catherine I.....	1725-1727	Wife of Peter.
Peter II.....	1727-1730	Gr'ndson of Peter I
Anna.....	1730-1740	Daughter of Ivan V
Ivan VI.....	1740-1741	Gr'tgr'dson Ivan V
Elizabeth.....	1741-1762	Daughter of Peter I
Peter III.....	1762-1762	Great grandson of Peter I. lost his life a few months after his accession by a revolution, headed by his wife.
Catherine II.....	1762-1796	Wife of Peter III.
Paul I.....	1796-1801	Son of Peter III.
Alexander I.....	1801-1825	Son of Paul I.
Nicholas I.....	1825-1855	Third son of Paul I.
Alexander II.....	1855-1881	Son of Nicholas I.
Alexander III.....	1881.....	Son of Alexand'r II

Concerning the title of Czar, or, in the Slavic tongues, Tsar, it was applied to the ruler by Russian historians as early as the twelfth century, but it was not adopted as the official title of the monarch until the sixteenth. Vasili (or Basil) III. assumed at his accession the title of autocrat, but Ivan the Terrible was the first to be crowned with the title of czar. The designation was then Czar of Moscow, or Great Russia. After the acquisition of the territory of Smolensk (White Russia) and the Ukraine (Little Russia) in the latter part of the seventeenth century, the title became "Czar of all the Russias." Peter the Great claimed the title and rank of emperor, but it was some time before the other nations of Europe would acknowledge the imperial dignity of Russia. The popular Russian appellation for their sovereign is hospodar, or lord.

#### JOANNA SOUTHCOTT.

WOODWARD, Iowa.

Will Our Curiosity Shop give the history of Joanna Southcott, with the religious tenets held by herself and followers? Is the sect still in existence?

E. S. SHEFFIELD.

*Answer.*—Joanna Southcott was born about the year 1750 of humble parents in Devonshire, England. Her early life was occupied chiefly as a servant in Exeter. She joined the Methodists, but on becoming acquainted with a man named Sanderson, who claimed the prophetic spirit, she assumed similar pretensions. Encouraged by some feeble clergymen, she began what grew to be a remarkable work. In the year 1792 she declared herself to be the subject of the prophecy in the twelfth chapter of Revelation. She uttered nu-

merous so-called prophecies in both prose and verse, which were extremely illiterate but found many purchasers. Many persons believed her claims. She wrote a work she called "Book of Wonders," and gathered around it a number of followers. She also issued sealed papers to her disciples, assuring them that these would protect them from the judgments of God in this world and the next—assuring their salvation. Even these pretensions were implicitly accepted, and many educated and cultured people were among those who believed in her. At length she imagined that she was to become the mother of a second Messiah, who was to be born Oct. 9, 1814. Her followers were so infatuated that this announcement was received with reverent belief, and an expensive cradle was prepared and elaborate preparations made for the event. The expected birth did not take place, and she died Dec. 27, 1814. The disease of which she died, as shown by a post-mortem examination, was dropsy. She was buried privately in London. Many of her followers believed she would rise again from her "trance" and become the mother of the Shiloh. In the year 1851 there were reported four congregations of Southcottians, but since then traces of them have been lost.

#### WHITE LEAD.

WITHERUP, Kan.

What are the component parts of white lead and how is it made?

C. CLIFF GOODRICH.

*Answer.*—White lead is the carbonate of lead. The method of combining the carbon with lead is as follows: The pig lead is melted and run into molds, forming what are called buckles, which are shaped like a stove grate and weigh about a pound each. Iron pots are then taken, which are half filled with vinegar, and just above the level of the vinegar are projections on the side of the vessels, upon which the buckles of lead are placed, not allowing them to touch the liquid. The pots are then stacked up in great numbers in a framework which is roofed in and provided with double walls. They are placed upon layers, with boards and tan between each, and piled up to the height of the building, and beneath them the floor is padded with tanbark, and so are the spaces between the double walls. The whole is then tightly shut in, and the contents of the pots are left to the silent action of chemical laws. The tan generates heat and makes an oxide of the lead, while the carbonic acid which the decomposition of the tan evolves combines with the oxide and gradually reduces the metal to a beautiful soft and snow-white substance. This result is accomplished after an interval of ten to fourteen weeks. This carbonate is then taken to long, revolving screens, through the meshes of which it drops into bins, any uncorroded particles of metal being separated by the screens and returned to the caldrons. The sifted lead is then washed to deprive it of any free acid, stain, or impurities, and is then ground in water, between heavy burr-stone mills, into a pulpy mass. This is then gathered and pumped upon drying pans in the kiln-house, and gives the dry, white lead of commerce. This dry lead is kneaded with linseed oil, in the proportion of about eight pounds of oil to 100 of lead. The

mixture is then ground fine in mills and packed for shipment.

#### THE NATURE OF DIAMONDS.

What is the chemical nature of diamonds and how are they formed?

MADRID Iowa.  
C. J. LURDLY.

*Answer.*—The exact mode of formation of diamonds is one of nature's secrets, for though scientists have been able to understand the chemical nature of the diamond by analysis, the reverse process, its manufacture by synthesis, has thus far been altogether beyond their skill. We know what a diamond is, but how nature makes it the careful dame has not yet permitted us to learn. The diamond is of the simplest chemical composition, being pure carbon. Charcoal is pure carbon also but the secret process by which nature rearranges the atoms of the black, lusterless charcoal into the form of the flashing diamond, the most perfect specimen of matter, is one that even long hope on the part of chemists, stimulated by the honor of great gains, has not been able to discover. Nor is it certainly known from what department nature takes the diamond-making material. It is generally supposed that it is furnished by vegetable charcoal, which undergoes a peculiar process of decomposition and crystallization, but it has also been conjectured that the carbonic acid, shut up from remote periods in the calcareous rocks, may have solidified in this perfect form. Sir David Brewster, from a study of the polarization of light in the minute cavities of the diamond, has concluded that the substance was once in a soft state, and, by the action of an expanding gas or fluid within, its very small cavities, which refract the light to such a remarkable degree, are formed. He regards it as certain that the original softness of the diamond was not caused by either solvents or heat, and therefore concludes that the diamond, like amber, is a vegetable substance slowly crystallized into its present form.

#### ELEVENTH ILLINOIS INFANTRY.

Give a history of the Eleventh Illinois Infantry.

CHICAGO.  
G. S. I.

*Answer.*—This regiment was first called into service under the President's proclamation of April 16, 1861, and was mustered in at Springfield April 30 for three months. It was sent to Bird's Point, Mo., remaining there, doing garrison duty. When the three months' term was out about one-third of the men re-enlisted, the regiment was immediately recruited to its full numbers, and was mustered in for three years. It took part in the fights at Forts Henry and Donelson, losing in the latter engagement seventy-two in killed and wounded. Of the 150 soldiers of the regiment who took part in the bloody fight at Shiloh the killed and wounded were twenty-seven. It was present at the siege of Corinth, and was stationed at various points in Tennessee and Northern Mississippi during the year, taking part in various skirmishes and raiding expeditions. In the following year it joined the movement on Vicksburg, taking part in the various fights and in the labors and assaults of the siege. After the surrender the headquarters of the regiment were at Vicksburg for twelve months, during which time, however, it took part in various important raiding

expeditions. In January, 1864, the regiment re-enlisted. In the latter part of July it went to Louisiana, was sent back to Tennessee in October, and after that was moved to various points until it was ordered to take part in the Mobile expedition. It remained at Mobile till May 27, then was sent to Louisiana, and in July was sent home for discharge.

#### WHY CORN POPS.

Our little boy asks what makes the corn pop when it is heated. We could not explain, so we ask Our Curiosity Shop.

OXFORDVILLE, Wis.

O. P. GAARDER.

*Answer.*—The peculiarity of pop-corn is that it contains more oil than other varieties of maize. When gradually exposed to heat over a brisk fire, the oil in the grain becomes converted into gas, which expanding tears open the starch cells of the corn. The heat at the same time cooks the starch and enlarges its particles, so that the popped grain is snow white and many times larger than before it was heated.

#### BALMORAL CASTLE.

Describe Balmoral Castle in Scotland.

DECATUR, Mich.

L. NIXON.

*Answer.*—Balmoral Castle is the autumnal residence of Queen Victoria. It is situated in a beautiful dell in the Scottish highlands, in the district of Braemar, in Aberdeenshire. It is about forty-eight miles from the city of Aberdeen, and is situated on a natural platform that slopes gently down from the base of the mountain of Craigan-gowan to the shore of the river Dee. In 1848 Prince Albert purchased the lease of the property, and the old castle not being commodious enough for the royal family, the Prince built a new one at his own expense, in what is called the Scottish baronial style of architecture. The castle consists of two separate blocks of buildings united by wings, and a tower thirty-five feet square rising to the height of eighty feet, surmounted by a turret twenty feet high. The Balmoral estate comprises an area of 100,000 acres, including 1,000 acres of woodland, and a deer park of 30,000 acres. The Prince bought the entire property in 1852. The Queen still visits this palace at intervals, and in the grounds had a handsome monument erected to the Prince Consort in 1863.

#### THE NEW CLAIM LAW.

I have seen it recently stated that by a new law the government can be sued by any private individual. Please give the law, and when it was passed.

Owosso, Mich.

INQUIRER.

*Answer.*—It has always been possible for an individual to bring suit against the government in one form or another. The recent important change was in the manner of bringing the suit. One of the laws passed at the very end of the last session of Congress was an act permitting the bringing of suits against the United States in the District or Circuit Courts throughout the country, instead of in the Court of Claims at Washington. Heretofore, any person desiring to bring suit against the government, was obliged to file his claim in the special court at the National Capital, and to wait months or years for a hearing. Under the new law the claim, if for less than \$1,000, can be brought in any District Court, or if



over \$1,000 and under \$10,000, before any Circuit Court of the United States in any part of the Union. "War claims" and claims rejected by any authorized court or commission are expressly barred, as are also claims more than six years old, but outside of these limitations the government consents to stand suit exactly as any private citizen would be obliged to do.

#### ONE HUNDRED AND FIFTY-FOURTH ILLINOIS INFANTRY.

Give a sketch of the One Hundred and Fifty-fourth Regiment of Illinois Volunteers and their services.

HAVENSVILLE, Kan.  
M. PRATT.

*Answer.*—The One Hundred and Fifty-fourth Regiment was organized at Camp Butler, Ill., Feb. 21, 1865, under the call of Dec. 19, 1864, for one year men. It left for Louisville, Feb. 24, thence went on to Nashville, and early in March went to Murfreesboro; remaining at the last named point doing picket and guard duty, until May 13. Then it went on to Tullahoma, but was sent to Nashville, stayed there on guard duty until Sept. 25, when it was mustered out and sent home.

#### THE SPANISH INQUISITION.

Give an account of the Spanish Inquisition.

WILMETTE, Ill.  
SUBSCRIBER.

*Answer.*—The inquisition was a tribunal in various Roman Catholic countries to search out and try persons accused of heresy, as well as other offenses against the canons of the church. The first formal sanction of this tribunal was by a papal bull in the thirteenth century, but, long before this, heresy had been declared a crime, and "inquisitors," or inquirers after heretics, had been appointed by Christian princes. Constantine the Great, the first Christian Emperor of Rome, made heresy a state offense, and the terms inquisition and inquisitors were used for the first time in the edicts against heretics issued by Theodosius I. in 382. The first time that the blood of a heretic was shed by the solemn forms of law was in 385. The church was then struck with horror at the act, and the bishop who had tried the victim was excommunicated, and died in exile. For several centuries cases of heresy were tried before the ordinary courts, but in course of time the examination of those accused of this crime was handed over to the bishops. Special machinery for the trial and punishment of heretics was first devised in the eleventh and twelfth centuries against the various sects who had separated from the church, and who became known under the general term of Albigenses. Heresy was then regarded as a crime against the state as well as the church, and the civil, no less than the ecclesiastical, authorities were arrayed against those sects. The murder of a papal legate in 1205 gave a pretext for declaring against the Albigenses a war in which thousands perished, and in 1229 the Council of Toulouse decreed the inquisition for their extermination. The searching out of heretics was first given to the bishops of the church, but the Pope (Gregory IX.), fearing that these would not be active enough, transferred their work to the Dominican friars. A guild was also formed called the "Militia of Jesus Christ," whose object was to aid inquisitors in their work. The church found the heretics, ex-

amined, and sentenced them, and then called in the civil authority to put its sentence into execution. The inquisitorial courts at first only held occasional sessions, but after 1248 they sat permanently. The inquisition was introduced into Spain in 1232 by Pope Gregory's appointment of the Dominicans of Arragon as inquisitors. During the century inquisitorial courts were established in Tarragona, Barcelona, Urgel, Lerida, and Gerona. At first the Spanish inquisition passed no sentence more severe than the confiscation of property, but toward the close of the fifteenth century the zeal of Mendoza, the Archbishop of Seville, gave a new impulse to the institution. At that time there was a real or pretended alarm lest the Jews and Moors in Spain should unite against the Christians. Bishop Mendoza proposed to King Ferdinand in 1477 that an inquisition should be established in Castile, with the primary object of searching out the Jews who had relapsed into Judaism after having professed Christianity, or who simply feigned conversion. Of course under this was the true purpose of the scheme, to keep in check the power of the Jews, and extort their wealth by persecution. The King readily assented to the scheme, and, sad to say, Queen Isabella also approved of it. The Inquisitorial Court of Seville was established in September, 1480, in the person of two Dominican friars; their first edict was Jan. 2, 1481, for the arrest of six "new Christians," as Jewish converts were called, and Jan. 6 all these were burned at the stake. Other executions followed, though many appeals were sent to the Pope (Sixtus IV.) who endeavored to check the bloody work, and counseled milder measures. But in 1483 King Ferdinand made the infamous Torquemada the Grand Inquisitor General of all Spain, and at the same time appointed a royal council of the supreme inquisition, of which the Grand Inquisitor was President of right and for life, with a bishop and two lawyers as counselors. Torquemada and Ferdinand framed the organic law of the new tribunal. The Spanish inquisition, by its compact organization, became very powerful. Though the Inquisitor General was appointed by the King of Spain and approved by the Pope, he was in reality independent of both. He named the subaltern officers, and had an absolute control over all the lower courts. The Jews were expelled from Spain in 1492, and the Moors in 1500, and the fact that many of these persons of alien race endeavored to avoid expatriation by accepting Christianity, brought many victims to the tortures of the inquisition. According to the estimate of Llorente, whose "Critical History of the Spanish Inquisition" is the most complete volume ever printed on the subject, the number of persons burned alive under Torquemada (1483-98) amounted to 8,800; those under Deza (1499-1506), to 1,664, and those under Cardinal Ximenes (1507-17), to 2,536. The following is the record given by him for the time from 1483 to 1808: Burned alive, 31,912; burned in effigy, 17,659; subjected to rigorous pains and penances, 291,456. By the beginning of the seventeenth century, the inquisition having completely exterminated Protestantism in Spain, the inquisition became more lenient. Its efforts were then

principally directed against heretical books, and only occasionally decreed an execution. The jurisdiction of the inquisition had been greatly restricted when Joseph Bonaparte abolished it in December, 1808. It was restored by Ferdinand VII. in 1814, but again abolished by the constitution of the Cortes in 1820. After the second restoration an inquisitorial junta was appointed in 1825, and in 1826, a tribunal, much on the old plan, was re-established at Valencia. It was finally abolished, however, in 1834, and in 1835 all its property was confiscated for the public debt.

#### A QUESTION OF TARIFF.

The Postville (Iowa) *Review* says: "One of the beauties of 'protection' is just now apparent because envelopes have suddenly advanced nearly 100 per cent in price, and when they have robbed the people of a few millions they will break the ring and allow the holders of the stock to pocket a decline of a dollar a thousand. This is protection with a big 'P.'" Waiving the purposely misleading confounding of patents and tariffs, what has been the per cent of increase in price of envelopes, wholesale, say in the last six months?

*Answer.*—Mr. J. C. Whiteford, of No. 78 Wash-ash avenue, Chicago, a gentleman well informed on the subject, has kindly furnished the following information: "The advance in the price of envelopes during the last six months has been equal to about 28 per cent. While prices of some particular sizes may show slightly more than 28 per cent increase, those of others show less than 28 per cent, and the average will be found to be very close to the figure first given. This advance in price, however, can in no way be connected with the question of tariff, but is wholly due to the combination existing among the envelope manufacturers, by which they have obtained complete control of all the envelope-producing machinery in the country and all the patents covering it. The manufacturers justify this advance in price on the grounds that prior to it envelopes were made at a loss to the manufacturer, and there remained but two courses open to them—either to stop manufacturing or to increase the price. They claim, further, that the prices of envelopes before the advance were out of all proportion with prices of any and all other articles manufactured from paper of like quality, and that the employment of the most improved machinery, coupled with the most economical management, did not justify the low prices then obtaining. The fact that American papers are rapidly making their way in both English and Continental markets we judge to be evidence sufficient to convince any reasonable person that we are manufacturing paper in this country more cheaply than in the old, and hence duties on paper can in no way influence the price of envelopes here."

#### ELECTROPLATING.

Give a history and description of the process of electroplating.

MITFORD, IND.

E. D. DEXTER.

*Answer.*—Gilding was formerly done by covering the metal to be gilt with an amalgam of gold and mercury and then volatilizing the latter metal, and the same process was employed in silvering. The first to gild the baser metals by means of the galvanic current was Brugnatelli, in 1803, but the first to make the process a success was the chemist

De la Rive, and it has since been greatly improved by later inventors. The process depends upon the peculiar power which the voltaic current possesses, of separating certain compound bodies into their constituent parts. For instance, if a current from a voltaic battery is passed by means of platinum electrodes, through water to which sulphuric acid has been added, this chemical separation, which is called electrolysis, will take place, the water being resolved into its constituent gases, oxygen and hydrogen. Now if some sulphate of copper is thrown into the liquid, electrolysis will still go on, with a double result, the water will be separated into its elements, and the hydrogen, by its stronger affinity, will form a new compound with the sulphur in the sulphate, setting the copper free; and the liberated copper being electro-positive in character, will be deposited on the platinum electrode, which is negative. On this general principle the process of electroplating, or electrotyping, depends, and its art consists in applying the metals thus released from their solutions to artistic and useful purposes. The solutions generally employed as electrolytes from which to separate gold and silver respectively, are those of the argento-cyanide and the auro-cyanide of potassium. These compounds are what are known to chemists as double salts; that is, while cyanide of potassium is simply a compound of potassium and cyanogen, argento-cyanide of potassium is cyanide of silver combined with cyanide of potassium. When a solution of this double salt is subjected to the action of electricity, silver appears at one electrode and cyanogen at the other, while the cyanide of potassium from which the other salt has been thus separated re-appears in the solution. It is the negative electrode which takes the silver, and if, therefore, the positive electrode is made of silver, the liberated cyanogen combines with it, forming cyanide of silver, which by uniting with the liberated cyanide of potassium keeps the strength of the solution to the proper degree. The apparatus used is an outer vessel of glass or earthenware, in which is a smaller vessel of biscuit ware, or other porous material. In the smaller vessel are placed the sulphuric acid with a plate of amalgamated zinc, the cyanide solution is in the outer vessel, and in it is suspended the object to be silvered or gilded, which is connected by a wire with the zinc in the cell, to convey the galvanic current. The strength of this current must be regulated. If the acid is very powerful, the electricity developed will be more than sufficient to release the metal, and hydrogen will be evolved, which will interfere with the plating process. To carry on electroplating on a large scale, oblong vats are used, which may hold 200 gallons of solution. Silver plates connected with a powerful voltaic battery, are placed at intervals in the vats; they form the positive electrodes, and correspond in extent of surface with the articles to be coated, and face them on both sides. These articles—knives, forks, spoons, cruet-frames, tea-pots, urns, etc.—act as the negative electrodes, and are suspended by copper wires from brass rods laid lengthwise over the vats, and connected with the



battery. The articles are prepared for plating by being first boiled in a solution of potash, to free them from all grease; they are then quickly dipped in red nitrous acid to remove any oxide that may have formed on the surface, and after this are well washed in water to remove every trace of the acid. They are then dipped into a solution of mercury, and then washed in water again. The effect of this latter operation is to make the film of silver adhere more readily. The articles are then weighed, and suspended in the solution, and are left there until a sufficient amount of silver has been deposited upon them. This amount is tested by weight. If the additional weight is not gained within the expected time the article is put in the solution again. When finally taken out the articles are rubbed with brushes of fine wire, and cleaned with fine sand; they are then polished on revolving brushes with rotten-stone, then with chamois leather and rouge, and lastly with the naked female hand. The process of electro-gilding is essentially the same as that given above for silvering, substituting gold for silver.

## PORCELAIN TOWER OF CHINA.

NEWTON, III.

Give some account of the famous porcelain tower of China, and tell whether part of it is still standing. R. F. M.

*Answer*—The beautiful porcelain tower in Nankin, China, was one of the wonders of the world. It was of octagonal form, 260 feet high, in nine stories, each having a cornice and a gallery without. It cost \$4,000,000, and was nineteen years in building, being completed in A. D. 1430. The outer face of this unique structure was covered with slabs of porcelain of various colors, principally green, red, yellow, and white. At every one of its nine stories the projecting roof of the gallery was covered with green tiles; and a bell was suspended from each corner. There were 152 bells in all, which gave sweet sounds when there was a brisk wind. One hundred and twenty-eight lamps were hung on the outside. On the top was a pinnacle in the shape of a pineapple, surmounted by a gilded ball. A spiral staircase led to the summit. This building was constructed for a gift to the Empress, and the government kept it in repair. In 1801 it was struck by lightning and its three upper stories broken or thrown down, but the government repaired the injury. In 1856, however, the Taiping rebels blew it up and carried away the materials, fearing that the magic influence of its bells and lamps would work against the success of their cause.

## CEMENT FOR IRON.

OTTAWA, III.

Can the Curiosity Shop give a recipe for a cement that will mend iron? MECHANIC.

*Answer*—Since the late discoveries of welding all metals by means of electricity, the new process has been generally preferred to any soldering or cementing process. A cement, however, that can be readily and cheaply used for mending broken tools and that will resist the blow of a sledge-hammer, is made thus: Take equal parts of sulphur and white lead, with about a sixth of borax; incorporate the three thoroughly. When about to apply it, wet it with strong sulphuric acid and place a

thin layer of it between the two pieces of iron and press them together. In five days it will be dry, all traces of the cement having vanished, and the iron will have the appearance of being welded together.

## LIQUOR MANUFACTURED AND CONSUMED.

MALAD CITY, IDAHO.

Give statistics showing the amount of distilled and fermented liquor manufactured, imported, and consumed in the United States.

B. BYRON LOWES.

*Answer*—There are, reports Mr. W. F. Switzler, Chief of the Bureau of Statistics, Washington, no official data of annual production of spirits prior to 1866 except quantities on which tax was paid. In the first column, after the years, the barrels are of not more than thirty-one gallons. In the production of distilled spirits, indicated in the next columns, the returns for 1863 and 1864, it should be noted that the returns of spirits distilled from apples, grapes, and peaches were included in the account of spirits distilled from other materials until July 1, 1864. The production from 1863 to 1886, inclusive, is as follows:

YEARS ENDING JUNE 30.	Production fermented liquors, barrels.	Production dis- tilled spirits, tax, gallons.	Production fruit brandy, tax, gallons.
1863.....	2,006,625	16,149,154	.....
1864.....	3,141,381	85,295,393	.....
1865.....	3,657,181	16,973,974	37,196
1866.....	5,115,140	24,062,705	248,654
1867.....	6,207,402	32,740,236	440,607
1868.....	6,146,663	16,910,913	515,262
1869.....	6,342,055	54,276,742	998,858
1870.....	6,574,617	72,560,929	1,223,830
1871.....	7,740,260	57,048,457	2,472,011
1872.....	8,659,427	69,365,443	1,089,698
1873.....	9,633,323	71,202,554	2,965,987
1874.....	9,600,897	69,572,061	766,687
1875.....	9,452,697	62,287,627	1,757,282
1876.....	9,902,352	58,631,808	672,221
1877.....	9,810,060	61,439,409	1,527,141
1878.....	10,241,471	57,342,456	1,239,403
1879.....	11,103,084	72,888,373	995,752
1880.....	13,347,111	91,378,417	1,023,147
1881.....	14,311,028	119,528,011	1,799,861
1882.....	16,952,085	107,283,212	1,430,051
1883.....	17,757,892	75,294,510	1,281,202
1884.....	18,998,619	76,531,167	1,095,428
1885.....	19,185,953	76,405,074	1,489,711
1886.....	20,710,933	81,849,260	1,504,880

The next table given by Mr. Switzler contains the annual consumption of distilled and malt liquors and wines in the United States. The data as to the product of domestic liquors and wines for 1840, 1850, and 1860 were derived from the census. The consumption of imported liquors and wines for 1840, 1850, and 1860 is represented by the net imports. The production of domestic wines from 1870 to 1885 has been estimated by the Department of Agriculture, by Mr. Charles McK. Loeser, President of the Wine and Spirit Traders' Society, New York, and other well-informed persons, and the amount stated as consumed represents the production less the exports. The consumption of domestic spirituous and malt liquors from 1870 to 1886 was obtained from the reports of the Commissioner of Internal Revenue. The consumption of distilled spirits as a beverage is estimated to be about 90 per cent of the product consumed for all

purposes. The table giving the consumption of wines and liquors is as follows:

YEARS.	DISTILL'D SPIRITS.		WINES.	
	Domestic, gallons.	Imported, gallons.	Domestic, gallons.	Imported, gallons.
1840.....	40,378,090	2,682,794	124,734	4,748,362
1850.....	46,768,083	5,065,390	221,249	6,094,622
1860.....	83,904,258	6,064,393	1,860,008	9,199,133
1870.....	78,490,198	1,405,510	3,059,518	9,165,549
1871.....	62,314,628	1,745,033	4,980,783	10,853,280
1872.....	66,235,578	2,186,702	6,968,737	9,713,300
1873.....	65,911,141	2,125,998	8,953,285	9,893,746
1874.....	62,581,562	1,958,528	10,951,859	9,516,855
1875.....	63,425,911	1,694,647	12,954,961	7,036,369
1876.....	58,012,693	1,471,197	14,968,085	5,193,723
1877.....	58,543,389	1,376,729	16,942,592	4,933,738
1878.....	50,704,189	1,227,752	17,953,386	4,310,863
1879.....	53,025,175	1,253,300	19,845,113	4,532,017
1880.....	62,132,415	1,394,279	23,298,940	5,030,601
1881.....	69,127,206	1,479,875	18,931,819	5,231,106
1882.....	71,976,398	1,580,578	19,934,856	5,628,071
1883.....	76,762,063	1,690,624	17,406,028	8,372,152
1884.....	79,616,901	1,511,680	17,402,938	3,105,407
1885.....	69,158,025	1,442,067	17,404,698	4,495,759
1886.....	70,851,355	1,410,259	17,366,393	4,700,827

Years.	—Malt liquors.—		Total consumption, gals.
	Domestic. Gallons.	Imported. Gallons.	
1840.....	23,162,571	148,272	74,244,817
1850.....	36,361,708	201,301	94,712,353
1860.....	100,225,879	1,120,790	202,374,461
1870.....	203,743,401	1,012,755	296,876,931
1871.....	239,838,137	1,299,990	321,031,851
1872.....	268,357,083	1,940,933	355,403,233
1873.....	298,519,675	2,177,587	387,581,432
1874.....	297,519,981	2,001,084	385,529,869
1875.....	292,361,047	1,992,110	381,065,045
1876.....	306,852,467	1,483,920	387,982,085
1877.....	303,854,988	1,072,679	386,723,115
1878.....	317,136,597	832,755	392,165,242
1879.....	343,724,971	880,514	432,261,090
1880.....	413,208,885	1,011,280	506,076,400
1881.....	442,947,664	1,164,505	538,882,175
1882.....	524,843,379	1,636,601	625,499,883
1883.....	549,616,338	1,881,002	655,728,207
1884.....	588,005,609	2,010,908	691,653,443
1885.....	594,063,095	2,068,771	688,632,415
1886.....	640,746,288	2,221,432	737,296,554

This leads to the final group, namely, the total consumption in gallons per capita of population:

YEAR ENDING JUNE 30.	Distilled spirits.	Wines.	Malt liquors.	All wines and liquors.
1840.....	2.52	0.29	1.36	4.17
1850.....	2.23	0.27	1.58	4.08
1860.....	2.86	0.35	3.22	6.43
1870.....	2.07	0.32	5.30	7.69
1871.....	1.62	0.40	6.09	8.11
1872.....	1.68	0.41	6.65	8.74
1873.....	1.63	0.45	7.27	9.29
1874.....	1.51	0.48	6.99	8.98
1875.....	1.50	0.45	6.71	8.66
1876.....	1.32	0.45	6.83	8.60
1877.....	1.29	0.47	6.58	8.34
1878.....	1.09	0.47	6.68	8.24
1879.....	1.11	0.50	7.05	8.66
1880.....	1.26	0.56	8.26	10.08
1881.....	1.37	0.47	8.63	10.47
1882.....	1.39	0.48	9.37	11.24
1883.....	1.43	0.48	10.1	12.11
1884.....	1.46	0.37	10.63	12.45
1885.....	1.44	0.38	10.44	12.26
1886.....	1.33	0.38	11.1	12.62

## MORGAN'S LAST RAID.

MILFORD, Wis.  
Give a brief account of the last raid of Morgan, the guerrilla, and an account of his death.

M. T. SMITH.

*Answer.*—In December, 1863, Longstreet, who had been conducting an active campaign in Tennessee, returned into Virginia, leaving the noted guerrilla, Colonel John H. Morgan, to carry on the struggle in East Tennessee. Dec. 29 there was a fight between General Sturgis and Morgan—the latter having an army of about 6,000—near New Market, in which Morgan was defeated. In another fight, Jan. 16, 1864, Morgan made the attack and Sturgis was driven back to Strawberry Plains. Morgan lingered in East Tennessee until May, and late in that month, with a small band of men, he went over the mountains and raided through Eastern Kentucky, plundering the wealthy districts as he went through. He captured several small towns, dashed into Lexington, burning the railway station and other property there, and hurried on to Frankfort. But General Burbridge was in pursuit, and came up with Morgan's men near Cynthiana, and in the fight which followed Morgan lost 300 in killed and wounded, 400 prisoners, 1,000 horses captured. Morgan now retreated into East Tennessee. In September he had his forces at Greenville, and Morgan himself and his staff were at the house of a Mrs. Williams. General Gillem, with troops, surrounded the house, and Morgan was killed while trying to escape. His body was sent through the lines under a flag of truce, and was buried, with imposing ceremonies, at Abingdon, Va.

## HENRY BERGH.

SAN BERNARDINO, Cal.  
Give brief sketch of the life of Henry Bergh, the founder of the Society for the Prevention of Cruelty to Animals.

E. W. S.

*Answer.*—Henry Bergh was born in New York in 1823, where he was educated, finally graduating at Columbia College. He spent some years more or less actively engaged in literary pursuits, and wrote a large number of tales and sketches, none of which, however, had any very lasting fame. In 1863 he was Secretary of Legation to Russia, and also acted as Vice Consul there. In 1866 he founded the American Society for the Prevention of Cruelty to Animals, in the face of much scoffing and opposition, and to the work of this society he has since devoted his life.

## THE CAPE COD SHIP CANAL.

NILES, Mich.  
Give some information concerning the canal across Cape Cod. When was this started, and when will it be finished? Who are the managers of the project?

SUBSCRIBER.

*Answer.*—The project of a ship canal across Cape Cod has been brought forward from time to time ever since the first settlement of the American colonies. The ground was examined, during the war of the Revolution, by a military commission, which reported in favor of the cutting. The need of the canal being strongly felt in the war of 1812, public attention was again turned toward the scheme. Between the years 1818 and 1826, the route was twice surveyed, first under the authority of the commonwealth, and then by command of the Federal Government. The latter survey was very carefully made, and the report



was so far approved by Congress that a committee was appointed to adopt a route and plans, and the government was about to undertake the project, but the advent of the Jacksonian administration, which was opposed to internal improvements, caused the scheme to be abandoned. It was not revived until 1860, when the State government of Massachusetts took it up again and secured a favorable report upon it from the coast survey, but nothing was done, and the project lay dormant for twenty years more, until in 1880 it was taken up as a private enterprise. An association of Boston and New York capitalists obtained an unexpired charter granted for this object, purchased a strip across the isthmus 1,000 feet in width, and began to make arrangements for the cutting. Work was not actually begun; however, until some time during 1886. By a recent report we learn that over a mile and a half of the canal is already excavated. The canal is to cut through Cape Cod at its narrowest part, connecting Buzzard's Bay, the deep indentation on the southern New England coast, with the arm of Cape Cod Bay, called Barnstable Bay, which hollows the opposite shore. The route here seems to have been marked out by nature, as two shallow water courses make a depression for over seven-eighths of the way across the peninsula at this narrow part. The length of the canal will be somewhat less than eight miles, and it will shorten the distance by water from Boston to New York over ninety miles, and the saving in time will be eight hours, besides the great advantage in escaping the dangerous coast at the point of the cape. The material to be removed for this waterway is generally easy of excavation, so it is thought there will be few delays in its construction. The canal will be twenty-three feet deep at low water and 200 feet wide, and the cost will be between \$5,000,000 and \$6,000,000. There has been spent already \$300,000, and a large dredge costing \$125,000 takes out 6,000 cubic feet of dirt every ten hours. When the canal is finished it will be no longer necessary for vessels to go around Cape Cod, a trip that generally results in wrecking between thirty and forty vessels every year on account of the dangerous coast. The estimated tonnage around the cape yearly is 15,000,000 tons, and the canal company will get 10 cents a ton, or a revenue of \$1,500,000.

#### THE TENURE OF OFFICE ACT.

LEYDEN, Mich.  
When was the tenure of office act passed, and when was it repealed? What were its provisions?  
N. MATSON.

*Answer.*—The tenure of office act was repealed during the last session of Congress (1886-1887). The original act was passed during the administration of President Johnson, at the time when Congress and the President were in bitter hostility toward one another, and was avowedly intended to thwart the President in carrying out his policy. It enacted that all civil officers should hold office through their term, allowing the President the power of suspension and temporary appointment only when the officer had been guilty of misconduct in office or crime, or for any reason had become incapable or legally disqualified. That is, it deprived the President of any discretionary power of suspension or removal whatever in regard to

those officers. When General Grant became President he recommended the total repeal of this law, and the House so voted by a large majority. The Senate did not take such a view, and a compromise resulted in the passage of a modified law annulling the necessity of the President's reporting causes of suspension during the recess to the next session of the Senate. Under this law successive presidents suspended officials at discretion, the act serving as but a slight check on their power. There was some opposition to the final repeal of the act, but the majority in Congress favored its abolition.

#### BATTLE OF THE BALTIC.

CHICAGO.  
Will Our Curiosity Shop give a concise account of the event referred to in the following lines, and tell who is the author of the poem?—

Of Nelson and the North.  
Sing the glorious day's renown  
When to battle fierce came forth  
All the might of Denmark's crown.  
And her arms along the deep proudly shone;  
By each gun the lighted brand,  
In a bold determined hand  
And the Prince of all the land  
Led them on.

R. S. G.

*Answer.*—The stanza quoted is the first of Thomas Campbell's spirited ode on the "Battle of the Baltic," fought April 2, 1801, between the British and Danish fleets. In December, 1800, a maritime alliance was formed between Russia, Denmark and Sweden, in regard to the rights of neutral nations in war. They claimed that neutral flags protected vessels from the right of search. The British government protested, and the Russian Emperor ordered an embargo on all British vessels in his ports. Great Britain then laid an embargo on Russian, Swedish and Danish vessels. Denmark and Sweden, however, declared their intention to stand by the armed neutrality, and retaliated with an embargo on British shipping. In March, therefore, a British fleet of fifty-two sail, under the admirals Sir Hyde Parker and Lord Nelson, was sent to break up the alliance. This entered the Sound and anchored near the Island of Huen, March 30. The attack was assigned to Nelson, at the head of twelve ships of the line and smaller vessels, making thirty-six in all. Against him were opposed eighteen large Danish men of war, mounting 628 guns, moored in a line a mile in length, and flanked by two batteries. The action began at 10 o'clock April 2. The firing was very hot, and about 1 o'clock Sir Hyde Parker gave the signal for discontinuing. Nelson, putting his glass to his blind eye, said: "I really don't see the signal. Keep mine for closer action still flying. Nail the flag to the mast." The Danes, encouraged by the presence of the Crown Prince, fought with desperate valor, but by half-past 3 o'clock their ships had all struck their colors, though it was impossible to move them off on account of the batteries. Nelson now sent a note ashore to the Crown Prince, saying that the Danes were the brothers and should never be the enemies of the British, and that if he could effect a reconciliation between the two countries he should consider it the greatest victory he had ever gained. He offered to withdraw his fleet if the Danes would no longer resist. An armistice was therefore agreed to. Subsequently Nelson held an interview with the Crown Prince, and

Denmark agreed to withdraw from the league. For this battle, which he said was the most terrible he had ever been engaged in, Nelson was made a viscount. Campbell's ode, of which the first verse has been given, has been universally acknowledged to be one of the finest battle odes ever written. The second and third and closing stanzas are as follows:

"Like leviathans afloat,  
Lay their bulwarks on the brine;  
While the sign of battle flew  
On the lofty British line;  
It was ten of April morn  
By the chime,  
As they drifted on their path  
There was silence deep as death,  
And the boldest held his breath  
For a time.

"But the might of England flushed  
To anticipate the scene;  
And her van the fleetest rushed  
O'er the deadly space between.  
'Hearts of oak!' our Captain cried;  
When each gun  
From its adamant lips  
Spread a death shade round the ships  
Like the hurricane eclipse  
Of the sun.

\* \* \* \* \*  
"Now joy, old England, raise  
For the tidings of thy might,  
By the festal cities' blaze,  
While the wine-cup shines in light;  
And yet amid that joy  
And uproar,  
Let us think of them that sleep,  
Full many a fathom deep,  
By thy wild and stormy steep,  
Elsinore!

"Brave hearts! to Britain's pride  
Once so faithful and so true,  
On the deck of fame that died  
With the gallant good Riou;  
Soft sigh the winds of Heaven  
O'er their grave!  
While the billow mournful rolls  
And the mermaid's song condoles,  
Singing glory to the souls  
Of the brave!"

#### THE EVOLUTION THEORY.

BECKTON, Mich.  
Give a synopsis of the evolution theory, also its history and to what an extent it has been adopted.  
READER.

*Answer.*—The evolution or development theory declares the universe as it now exists to be the result of a long series of changes, which were so far related to each other as to form a series of growths analogous to the evolving of the parts of a growing organism. Herbert Spencer defines evolution as a progress from the homogeneous to the heterogeneous, from general to special, from the simple to the complex elements of life, and it is believed that this process can be traced in the formation of worlds in space, in the multiplication of types and species among animals and plants, in the origin and changes of lan-

guages and literature and the arts, and also in all the changes of human institutions and society. Asserting the general fact of progress in nature, the evolution theory shows that the method of this progress has been (1) by the multiplication of organs and functions; (2), according to a defined unity of plan, although with (3) the intervention of transitional forms, and (4) with modifications dependent upon surrounding conditions. Ancient writers occasionally seemed to have a glimmering knowledge of the fact of progress in nature, but as a theory "evolution" belongs to the enlightenment of the nineteenth century. Leibnitz in the latter part of the seventeenth century first uttered the opinion that the earth was once in a fluid condition, and Kant about the middle of the eighteenth century definitely propounded the nebular hypothesis, which was enlarged as a theory by the Herschels. The first writer to suggest the transmutation of species among animals was Buffon about 1750, and other writers followed out the idea. The eccentric Lord Monboddo was the first to suggest the possible descent of man from the ape, about 1774. In 1813 Dr. W. C. Wells first proposed to apply the principle of natural selection to the natural history of man, and in 1822 Professor Herbert first asserted the probable transmutation of species in plants. In 1844 a book appeared called "Vestiges of Creation," which though evidently not written by a scientific student, yet attracted great attention by its bold and ingenious theories. The authorship of this book was never revealed until, after the death of Robert Chambers a few years since, it became known that this publisher, whom no one would ever have suspected of holding such heterodox theories, had actually written it. But the two great apostles of the evolution theory were Charles Darwin and Herbert Spencer. The latter began his great work, the "First Principles of Philosophy," showing the application of evolution in the facts of life, in 1852. In 1859 appeared Darwin's "Origin of Species." The hypothesis of the latter was that different species originated in spontaneous variation, and the survival of the fittest through natural selection and the struggle for existence. This theory was further elaborated and applied by Spencer, Darwin, Huxley, and other writers in Europe and America, and though today by no means all the ideas upheld by these early advocates of the theory are still accepted, still evolution as a principle is now acknowledged by nearly all scientists. It is taken to be an established fact in nature, a valid induction from man's knowledge of natural order.

#### GAMBRINUS.

OXFORD, Ohio.  
Give a history of the patron saint of the brewers  
—Gambrinus.  
H. M. T.

*Answer.*—Gambrinus is usually represented as a portly, ruddy, but dignified personage, with a long gray beard, a crown on his head, the regal ermine on his shoulders, and a foaming tankard in his hand. Though there is no doubt that the Egyptians and Greeks were acquainted with the method of brewing beer before it was known in Germany, the early Germans have always been claimed by their descendants as the first inventors



of this beverage, and it is known that the Romans first took it from them. John Fiske in his book, "Myths and Myth-makers," gives one form of the Gambrinus fable. According to this, Gambrinus was a poor fiddler, who sold his soul to the devil on the promise of unlimited wealth. Satan taught him to make chiming bells and lager beer. The Emperor of Rome, on the first trial of this delectable beverage, made its inventor Duke of Brabant and Count of Flanders. According to contract Gambrinus was to enjoy his great wealth for thirty years. At the end of that time Satan sent a messenger for him, but he made the messenger drunk and so escaped, and lived on comfortably for a couple of centuries more. But this story is found on investigation to have been a pure invention of a French writer of the latter part of the eighteenth century. The Gambrinus of German folk-lore, however, is always a King of Brabant and Flanders. He flourished at some remote period, and was the first to brew beer. A tradition of medieval times made him one of the very ancient German kings, the seventh in descent from Noah, who flourished about 1730 B. C. The story of Gambrinus, the inventor of beer, is also found in the legends of Denmark and Ireland. But nearly all myths, if closely examined, will be found to be inventions framed to fit a particular purpose. An explanation of this myth makes the name a corruption of Jean Primus (John the First), Duke of Brabant. This nobleman, who was born in 1251, and died in 1294, was a generous patron of the arts, and was made an honorary member of the guild of brewers in Brussels. In their place of meeting they had his portrait suspended, showing this Duke in his official robes bearing a tankard of beer in his hand. In the course of time the memory of the liberal Duke perished, and later generations regarded his portrait as designed to represent a mythical inventor of beer, and therefore framed the legend to fitly describe him.

#### INTERNAL REVENUE OF THE UNITED STATES.

TROY, N. Y.  
 Give through the Curiosity Shop a brief account of the internal revenue system of the United States.  
 J. S. LEWIS.

*Answer.*—At the close of the Revolutionary war the plan of raising money by internal taxation was scarcely considered. True, a provision in the Constitution shows that the possibility of recourse to such taxes was not overlooked, but it would have been very unwise, not to say impolitic, to put in operation any system of excise at that time. So strong was the general prejudice against such taxes that it was twice moved in the New York convention adopting the Constitution that the power of levying excise be prohibited to Congress. One reason for this feeling was a prejudice which had grown up under the English system of direct taxation, and another was in the fact that the people were at that time so generally impoverished that they actually could not pay taxes. However, an excise was soon proposed by Congress in the tax on distilled spirits in 1791, and its collection was enforced with the military arm of the Government, when opposed by the people in open insurrection. But though the open resistance of the people to the whisky tax was soon put down, the general feeling of opposition re-

mained. In 1794, under a fear of renewed hostility with England but ostensibly to pay the expenses of the Department of State, a fee was charged for all patents. Also, to provide for the expenses of our foreign representatives, duties were laid upon carriages, upon licenses for selling wines and liquors, upon snuff, refined sugar, and on auction sales. The proceeds of these taxes together with what accrued from the postoffice, sales of Government lands, and dividends on stock in the United States Bank, were the only sources of the internal revenue of the Government. The annual produce of all these taxes was estimated by Mr. Gallatin, in 1796, at \$416,000. In 1797 Congress laid a tax on stamped vellum, parchment, and paper. This "Stamp Act," as it was called, was very unpopular, principally because of disagreeable associations with the name, but it was continued and yielded a large revenue. In 1798, because of apprehensions of war with France, a direct tax of \$2,000,000, the first of its kind, was apportioned among the States. This tax was levied on houses, on slaves, and on lands. It led to the rebellion headed by John Fries, known as the "Hot-water War," of which the reader will find an account in Our Curiosity Shop book for 1886. With the accession of Jefferson to the Presidency an attack was made on the system of internal taxes, and on his recommendation Congress passed an act in April, 1802, abolishing all these taxes. From 1802 to 1813 no internal duties whatever on articles grown or manufactured in the United States were imposed. But the war of 1812 made it necessary to have recourse to the system again, and all the old taxes were reimposed, except that the tax per gallon on distilled spirits was replaced by a license tax on distillers. In 1814 these taxes were increased, and in addition specific taxes were laid on iron and candles, and ad valorem taxes on hats and caps, umbrellas, playing cards, leather and plate, beer, ale, harness, and boots. Household furniture and gold and silver watches were also taxed according to their value. But these burdens were only tolerated till the expenses of the war were partly liquidated. In 1816 the direct tax was reduced one-half, and in the following year every internal tax was repealed. From 1819 to 1861 no direct tax of any kind, duties of excise, or other internal tax was levied by the United States Government. But the internal revenue law of July, 1862, reintroduced the system. It was a complete code of taxation, one of the most comprehensive ever devised. The country, from being very lightly taxed, was compelled by the war to levy heavy taxes, and it was a striking proof of the patriotic devotion of the people that these burdens were so patiently borne. "The one necessity of the system," says an economic writer, "was revenue, and to obtain it speedily and in large amounts through taxation the only principle recognized—if it can be called a principle—was akin to that recommended to the traditional Irishman on his visit to Donnybrook Fair, 'wherever you see a head, hit it.' Wherever you find an article, a product, a trade, a profession or a source of income, tax it." The work of collecting this enormous revenue was very great, and, recognizing this, a commission was appointed in

1866 to inquire into the most profitable sources of revenue, and devise improvements in the mode of its collection. In 1866, the office of special commissioner of the revenue was created, which existed until 1870. By 1869 a very large number of articles had been taken off the tax list, so that nearly all the revenue was at that time collected from a few articles of luxury. By the close of 1872, the taxes had been removed from nearly all the long list of articles on which they had been imposed for ten years previous, excepting liquors and tobacco, banks, and a limited number of articles taxed by means of a stamp. The articles on which internal taxes are now levied are spirits, tobacco, fermented liquors, State banks and bankers. Moneys collected from fines and penalties levied by the Government are also classed by the Treasury report among internal revenue receipts.

#### THE KARMATHIANS.

HUNTER, III.

Who and what were the Karmathians?

W. H. THORNTON.

*Answer.*—The Karmathians, or Carmathians, were a Mohammedan sect which sprang up in the ninth century, under the caliphate of Al-Mohammed. It was so called from Abu Said Al-Jenabi, surnamed Al-Karmata. This branch of the Mohammedans succeeded in becoming so strong a political power as to threaten the caliphate itself. Its originator was one Abdallah Ibu Maimun, about the middle of the second century of the Hegira. He was a Persian by birth and an oculist by profession. He contemplated the union of the Arabic conquerors and the many races they had subjected since the death of Mohammed, or Mahomet, and the enthronement of what was afterward called pure reason as the only deity to be worshipped. Among his disciples was his son and successor, Ahmed, of the sect of the Ismaili, who built up the movement cautiously and strongly. One of his followers was Karmat, who lived in the province of Kufa, and who introduced, according to some, absolute communism, not only of property, but even of wives, among them, and founded a colony which was the center of an immense conspiracy. A noted missionary was Abu Said, who went to Southern Persia and to Bahrein, on the Persian gulf. There he found many disaffected toward Islam, Jews and Persians, who had been subdued by Mohammed and had been allowed to retain their creeds. When the prophet died they had revolted, but were once more subdued. The Arabs of the interior were also ready for an uprising. In less than two years Abu Said had brought over the greater part of the people of Bahrein. The Caliph sent an army of 10,000 men against Abu Said and his followers, who defeated them, and the Caliph's general was made a prisoner. From that time the movement spread rapidly. Abu Said was killed in his own castle fourteen years later, and his son, Abu Tahir, succeeded him. His victories were great, and in the year 930 he attacked Mecca. All endeavors to purchase his retirement were fruitless, and a horrible massacre followed, lasting, according to various authorities, for from six to seventeen days. The holy places were desecrated, and Abu Tahir laid hands upon the supreme palladium, the black stone itself. It was afterward returned for a great

ransom. Abu Tahir died almost absolute master of Arabia, Syria, and Irak. Then the Karmathians began to decline, and in the fifty years following the desecration of Mecca they had ceased to exist as a potent political force. Says one author: Regarding the special form of belief of the Karmathians, so far as it has been preserved to us, it seems in the beginning—before Ismailism became a mixture of "naturalism," "materialism," of whilom Sabæism and of Indian incarnations and transmigrations of later days—to have only been a kind of "reformed" Islam. The prophet Karmat, it was held, had brought a new law into the world. By this many of the Mohammedan tenets were altered, many ancient ceremonies abrogated, and forms of prayer are introduced, and an entirely new fast is inculcated. Wine is permitted, as well as a few other things prohibited by the Koran. Certain of the precepts met in this book are tamed into mere allegories. Prayer is but the symbol of obedience to their Imam, and fasting is the symbol of silence, or rather, of concealment of the religious doctrine from the stranger.

#### PONTIUS PILATE.

NORA, Neb.

Give some history of Pilate, his national descent, place of birth, etc.

J. J. K.

*Answer.*—Pontius Pilate was the Roman procurator or Governor of Judæa, Samaria, and Idumæa, and succeeded Valerius Gratus the year 25 or 26 A. D. It is stated by the best authorities that he was possibly of Samnite extraction, and was by rank a Roman eques. His appointment was due to the influence of Sejanus. There is lack of clearness in history as to the nature of his office. Pilate's official residence was at Cæsarea, the capital, but his visits to Jerusalem were frequent, particularly during the more important feasts. He was evidently of a reckless disposition, and permitted many acts of violence by his soldiers, which tended only to embitter the Jews against him and his soldiery and Roman rule. His soldiers carried their eagles and other insignia to Jerusalem, a thing no previous Governor had done. The people flocked to Cæsarea, where Pilate then resided, and besought him to remove the images from their city. After five days of turbulence there, he turned loose his soldiers upon the crowds and killed a number of the petitioners. This only strengthened their protests, and after much trouble and turmoil he yielded and ordered the standards back to Cæsarea. He took funds from the sacred treasury to complete his aqueduct for bringing water to the city from the Pools of Solomon, but when his course was resented by the people, he caused some of his soldiers, armed and disguised as Jews, to mingle with the crowds, and many persons were slaughtered. He had hung up in Herod's palace certain gilt shields dedicated to Tiberius, and was remonstrated with by the Jews. Tiberius was appealed to, and ordered them transferred to the temple of Augustus at Cæsarea. The Scriptures tell us all we know of the incident of mingling the blood of certain Galileans with their sacrifices. He caused a number of Samaritans to be attacked and killed on Mount Gerizim, which



led to a complaint against him to Vitellius, the legate of Syria, and Pilate's recall in the year 36. It was the custom of the procurators to reside at Jerusalem during the great feasts, to preserve order, and that explains how Pilate was there at the time of the last Passover of Jesus, when he occupied the palace of Herod. When Pilate was recalled to Rome, he found that Tiberius was no more, and that Caligula was Emperor. There are various versions of his later life. Some claim that he killed himself; others that he was beheaded by Nero. Another tradition banishes him to Vienne on the Rhone, where a singular monument is called Pontius Pilate's tomb. Still another has it that he sought to hide his sorrows on the mountain beside Lake Lucerne, now called Mount Pilatus, and that there, after spending years in its recesses, in remorse and despair, rather than in penitence, he plunged into the lake which occupies its summit. The Copts regard him as a martyr, and the Abyssinian Church gives him a place in its calendar (June 25). It is said that his wife, Procla, or Claudia Procula, was a proselyte, and a secret disciple of the Master, and the Greek Church commemorates her as a saint (Oct. 27).

#### THE PICTURED ROCKS.

ROCKPORT, W. Va.  
Give a description of the Pictured Rocks of Lake Superior.  
J. V. ATHEY.

*Answer.*—On the southern shore of Lake Superior, and some seventy miles west of Whitefish Point, and a short distance east of Munising, are the famous Pictured Rocks. These may be described as a series of sandstone bluffs, rising in many places abruptly out of the water to a height varying from 50 to 200 feet. Two features impart to the scenery its remarkable appearance; the one, the strange style of the cliff excavations, worn away by the action of the lake, and the other the quite as strange way large portions of the surface have been colored by bands of brilliant colors. To the first is to be ascribed the name ("Les Portails") given the rocks by the French voyageurs, and to the many hues which the series of bluffs hold so boldly is to be traced the American name of Pictured Rocks. It is not now known when this term was first applied to them. The denuding effects of the water upon these cliffs are shown for a distance of about five miles along the shore. There is no beach, the cliffs rising vertically out of the water. In visiting the rocks, two ways are taken, by passing them in a steamer, and in taking a boat at some of the nearest points, as Munising; the steamers run near enough in good weather for tourists to obtain a passing view. In going from east to west we notice a few of the most important objects. The Chapel is a vaulted apartment in the rock, thirty or forty feet above the lake level; an arched roof of sandstone rests on four columns of rock so as to leave an apartment about 40 feet in diameter and the same in length; within are a pulpit and altar. West a short distance of the Chapel is Chapel River, which falls over a rocky ledge fifteen feet high into the lake. The Grand Portal is the most imposing feature of the series; it is 100 feet high by 168 broad at the water level, and the cliff it is cut in rises above the arch, making the whole height 185 feet; the great cave, entered

through the Portal, extends back in the shape of a vaulted room, the arches of the roof built of yellow limestone, and the sides fretted into fantastic shapes by storm-driven waves. About a mile west is Sail Rock, a group of detached rocks, which bear a resemblance to the mainsail and jib of a sloop; the height of this is about forty feet. Miner's Castle, five miles west of the Chapel, and just west of Miner's River, is the western end of the Pictured Rocks, and resembles an old turreted castle with an arched portal; the height of the advanced mass in which the gothic gateway may be recognized is about seventy feet and the height of the main wall forming the background is 140 feet. In regard to another part of the Pictured Rocks a writer says: "In one place there stands a majestic profile looking toward the north—a woman's face, the 'Empress of the Lakes.' It is the pleasure of her royal highness to visit the rock only by night, a Diana of the new world. In the day time search is vain; she will not reveal herself; but when the low-down moon shines across the water, behold, she appears! She looks to the north, not sadly, not sternly, like the Old Man of the White Mountain, but benign of aspect, and so beautiful in her rounded, womanly curves, that the late watcher falls into the dream of Endymion; but when he wakes in the gray dawn he finds her gone, and only a shapeless rock glistens in the rays of the rising sun."

#### THE SODA ENGINE.

CASCADE, IOWA.  
About a year ago there was some account in the papers about a new invention, by which locomotives could be run without the use of coal or wood. What was this invention and how applied?

READER.

*Answer.*—Reference is no doubt made here to the soda engine, which, although no new thing in Europe, was only introduced into this country in 1886. During that year the Baldwin Locomotive Works, of Philadelphia, began the construction, under the supervision of a skillful German engineer, of four engines of this kind, which have since been put to work on the street cars of Minneapolis, Minn. In these engines soda takes the place of fire under the boiler, this substance having about the same power as coal, without any of the offensive gases which that fuel emits. The engine has much the same appearance as a passenger car. It is about 19 feet long, entirely boxed in, with no visible smoke stacks or pipes, as there is no exhaust or refuse. The boiler is of copper, 84½ inches in diameter, and 15 feet long, having tubes running through it as in steam boilers. Inside the boiler are placed five tons of soda, which upon being dampened by a jet of steam produces an intense heat. When the soda is thoroughly saturated, which will occur in about six hours, the action ceases, and then it is necessary to restore it to its original state by forcing through the boiler a stream of superheated steam from a stationary boiler, which drives the moisture entirely from the soda, when it is again ready for use. The exhaust steam from the cylinders is used to saturate the soda, and by this means all refuse is used. Soda engines have been used successfully for several years with the street cars of Berlin and other European cities, and they are also used to draw the trains through the St. Gothard Tunnel, under the

Alps. Steam engines can not be used in this tunnel, because it is so long that no system of ventilation can carry away all the foul gases generated by the locomotive. These gases would soon become so dense and overpowering as to suffocate every human being entering the tunnel.

#### THE COSSACKS.

CHICAGO.

Give some account of the Cossacks of Russia. Are they allied in origin to the Russians proper or are they of Tartar descent? B. N. SELOVER.

*Answer.*—The Cossacks, divided into two well marked tribes, the eastern and the western—the former known as the Cossacks of the Don and the latter as the Cossacks of the Dnieper—are unquestionably allied in descent to the Russians proper. Their name, which in Russian is *Kazak*, is derived probably from a word which in the Tartar tongue means a robber, and in the Turkish a light-armed soldier. It is thought that the ancestors of the Cossacks were deserters from the army of Russia or perhaps refugees fleeing from their devastated districts at the time of the Mongol invasions of the thirteenth and fourteenth centuries. They found their position on the islands of the Dnieper secure from invasion, and welcoming to their number wanderers from every land and tribe they gradually grew into a strong and active community. They made raids for plunder into the territory of the Turks, sometimes pushing to the suburbs of Constantinople, and in their small, rude boats, made simply of logs hollowed out, they fearlessly crossed the Black Sea and ravaged and plundered every district on its shores. Robbers by profession and cruel by habit, they were the terror of surrounding countries, and by the sixteenth century they had secured such warlike reputation that Poles and Muscovites, Tartars and Turks alike eagerly sought their alliance. They were a hardy race, possessed of indomitable courage, and delighted in war, as much for the dangers that attended it as for the plunder they could gain by it. In the sixteenth century they became the vassals of Poland, not by conquest, but through the privileges offered them by the Polish King, Stephen Bathori. This sagacious monarch extended their territory, introduced among them many of the useful arts of life, and improved the discipline of their army, and in return they were Poland's most valiant allies. But succeeding Polish rulers were less sagacious, and attempted to curb the liberty of these wild people. Their insurrection, begun in 1648, was characterized with the wildest crimes and cruelties, and ended only in their submission to Russia, which they found an even more oppressive protector. About this time a part of the tribe formed a military organization which established a fortified camp on an island in the Dnieper, south of the Porogi, or cataracts, and thus received the name of Zaporogians, or "Dwellers beyond the Cataracts." This part of the tribe was far more fierce and lawless even than the others. They allowed no women in their camps, all their number were bound by a vow of celibacy, and they recruited their ranks by kidnaping boys of neighboring tribes. The Zaporogians, with other Cossacks, under the famous leader Mazeppa, joined Charles XII. of Sweden in his invasion of Russia, but this revolt brought down upon their heads the wrath of

Peter the Great, who wrought a bloody revenge upon them. After he had quelled them by force of arms, this ruler took from the Cossacks all their privileges, broke up the camp of the Zaporogians, and forced these fierce soldiers to flee to the Crimea for safety. The Empress Anna recalled them, but they were so troublesome that they were again expelled. They went to the Crimea, and after that peninsula had been made a part of the Russian Empire, the Czar utilized its Cossack inhabitants by posting them as guards on the frontier to keep out the incursions of the Caucasian tribes. The Cossacks of the Don seem generally to have had a closer connection with the Russian Empire than the Western Cossacks, but they have always been troublesome vassals. Ivan the Terrible sent an army against them, but on its approach, feeling that they could not safely cope with its numbers, the Cossacks dispersed. One party took refuge in the Caucasus, another established themselves in the Ural Mountains and drove the Tartars from the villages that they had built there. The third party, under Yermk, one of their most daring leaders, made its way eastward into Siberia. Here its captain invaded the territory of a Tartar khan, ruling the country along the Tobol and Irtysh Rivers. Succeeding in overcoming this ruler, he pushed his conquest further, and subsequently secured his pardon from the Czar by exchanging for it the conquered country. These Eastern Cossacks gradually reoccupied their old lands along the Don, and again revolted more than once against Russian oppression. Since the overthrow of one of the most serious of their outbreaks in the reign of Catherine II., the policy of the government has been to subject the people to strict military discipline, and by this plan, this restless and warlike race has been made to furnish one of the most valuable departments of the imperial army. Their services on the frontier, from the Caucasus eastward, have been of the utmost value. They are not ideal soldiers, however, for though as irregular cavalry, and as scouts and skirmishers, they do good service, their steadiness and discipline in important engagements can not be relied upon, and they still retain their ancestors' fondness for plunder. The ancient commune is still the mode of government in the Cossack territory, the land being the common property of the village or community. In return for furnishing the government troops in time of war, the Cossacks are exempt from taxation. Their chief occupations in time of peace are the breeding of cattle and fishing. Agriculture is carried on to an extent sufficient to supply them and their horses and cattle with food. In commerce and manufactures they manifest the most meager interest.

#### BATTERY E, SECOND LIGHT ARTILLERY.

CARBONDALE, ILL.

Give a brief sketch of Battery E, Second Illinois Light Infantry. H. K. BAKER.

*Answer.*—Battery E was organized at St. Louis, Mo., in August, 1861, by Captain Adolph Schwartz, and was mustered into service Aug. 20. In September the battery moved southward, taking position at Cairo, whence sections moved into Kentucky and Missouri with various expeditions. In



February the battery went down the river to Fort Henry. It took active part in the siege of Fort Donelson and in the battle of Shiloh. Was also at the siege of Corinth. At the fight of Brittan's Lane, Sept. 1, 1862, one section of the battery was captured. The other section, in November, took part in the Yocona expedition, then returned to Moscow. In January, 1863, it was consolidated with Battery A, which was on service with the army in Arkansas until its muster out in July, 1865.

#### DISGRACE OF LORD BACON.

FORT COLLINS, Colo.

In a list of historical events I find this statement, "Bacon disgraced May 3, 1621;" please give an account of this circumstance.

P. B. LEAMOND.

*Answer.*—Francis, Lord Bacon, Viscount St. Albans, was possessed of one of the most brilliant intellects with which humanity was ever endowed, but, unfortunately, his moral sense was not strong enough to protect him against the contaminating influence of the evil time in which he lived. In January, 1621, Bacon was at the height of his power. He was Chancellor of the Kingdom, and had been made Baron Verulam and Viscount St. Albans. The first edition of his great work "Novum Organum," had been published in 1620. He had always suffered much from lack of funds for he was very improvident, but he now had an income of £7,600 from his offices, and his third wife, whom he had married in 1606, had brought him much wealth. Still, the habit of extravagance seemed to have led him into corrupt practices. An investigation was begun in the House of Commons, early in 1621, into the legality of certain monopolies, which Bacon had sanctioned. The inquiry was led by Bacon's most bitter enemy, Sir Edward Coke, formerly Chief Justice (who had been removed from office, largely through Bacon's instrumentality, on the charge of slighting the royal prerogative), and he soon converted it into a direct assault upon the Chancellor. A committee was appointed to inquire into the abuses of the Court of Justice and this in March proffered evidence that the Chancellor had been taking bribes, and in the course of the proceeding no less than twenty-four of these instances were brought forward. The Commons referred the case to the House of Lords. Bacon at first attempted to stand up against his accusers, and assured his friends in the strongest terms of his innocence. In the examination of the charges it was shown in fourteen cases that the presents had been given long after the suits had been terminated; in other cases the decrees rendered by the Chancellor had been against the donors, and in still other instances the money offered had been taken not as a gift but as a loan, and decision had been given against the creditor. Yet when brought to the test Bacon submitted to the accusations. It was said that the King persuaded him not to attempt to stand against the popular excitement. On April 22, 1621, Bacon wrote to the Lords that he abandoned his defense, and moved them to condemn and censure him. The house required him to answer each charge against him separately, and he said, in reply to each, "I do plainly and ingenuously confess that I am guilty of corruption, and do renounce all defense." The lords sent a

deputation to wait on him to ask if the confession was really his, to which he replied, "It is my act, my hand, my heart. I beseech your lordships, be merciful to a broken reed." Yet Gardner, the historian, who made a thorough investigation of the records of the accusations, says: "The charge that Bacon knowingly and corruptly sold or delayed justice falls entirely to the ground. The only possible explanation of his conduct is that, with his usual carelessness of forms, he contented himself with knowing that the immediate reception of the money, which he believed himself to have fairly earned, would not influence his decision; in other words, that without a corrupt motive he accepted money corruptly tendered." The defenders of Bacon have claimed that he saw that the attack upon him was prompted by political animosity, and that no defense would save him, and he believed that by complete submission he might escape with a more lenient sentence. Furthermore, that though he was fully confident in his own integrity, he could not fail to see how evil the practice was which he had allowed to continue, for he said concerning the attack on himself: "I was the justest judge that was in England these fifty years. But it was the justest censure in Parliament that was these two hundred years." For all this, it is impossible to doubt that Bacon was a moral coward, whatever view is taken of his guilt. And, whether guilty or not, his disgrace was complete. He was sentenced to a heavy fine, to imprisonment during royal pleasure, to exclusion from Parliament, office, and court. The fine was remitted, and Bacon was released after two days' imprisonment. His advice was sought by the government but once afterward, he never held any office, and with the few friends who had stood by him in adversity he passed the remainder of his life in seclusion and the pursuit of his favorite studies.

#### THE MARBLE FAUN.

OSCEOLA, Ill.

Give some account of Hawthorne's "Marble Faun," the circumstances under which it was written, and the symbolic meaning of the several characters.

E. SENNETT.

*Answer.*—Mr. Hawthorne conceived the idea of this story during his visit to Italy with his family in 1858. He outlined the tale while staying at Montauto, a village in the hill country of Italy, in the autumn of that year, but his work upon it was checked upon the family's return to Rome, soon after, by the prolonged and dangerous illness of his daughter, Una. In May, 1859, they left Rome for several weeks' travel on the continent, and then went to England. Here they settled at the village of Redcar, near the Yorkshire coast, where Mr. Hawthorne completed the novel. It was printed first in England, and subsequently in the United States. The work was severely criticised on account of its mysterious character, and more than one critic insisted that it must have been intended as an allegory, but Hawthorne never attempted any explanation of the tale. A magazine article, several years later, offered an exposition of the characters, claiming that Miriam was intended to represent the human soul; Hilda, the conscience; Kenyon, the reason; Donatello, the animal nature; and the old monk, temptation. This article was

shown to Hawthorne, who expressed a great deal of pleasure on reading it, but did not say that it at all accorded with his original conception of the characters, or the story. The life of Hawthorne, by his son, describes certain scenes witnessed by the author in Rome, which were incorporated into the book, but attempts no "explanations" of its characters or plot. It is quite probable that these were not meant by Mr. Hawthorne to have any parabolic significance, but were simply details of life and human nature, imaginatively treated.

#### THE FAMOUS DRIVE-WELL CASE.

HEXWOOD, IOWA.

Give the facts concerning the drive-well case of Nelson W. Green, which has recently been before the United States Supreme Court. How is it that the court has recently decided the patent invalid from the first, when its decision a few months previous fully supported the patent?

W. N. MICHELS.

*Answer.*—A court of appeal in any reconsideration of a case, considers only the evidence and points of law presented in the first trial. Therefore, it might be possible that in considering different phases of the case conclusions of altogether opposite force might be reached. Thus, the two decisions of the United States Supreme Court, in May, 1887, considered first, whether the drive-well invention was patentable, though similar improvements in boring wells had been previously in use, and the principle upon which it is based had been made public property through scientific journals; second, whether the fact that Nelson W. Green had made his first drive-well in 1861, but had not made application for a patent until 1866, should be held as a virtual abandonment of the invention, thus rendering the patent void. In the first instance it was held that the invention was patentable, being in certain essential points different from the invention shown in evidence as previously made by others, and being in no sense barred by previous scientific expositions of its practicability; also, that since the evidence showed that Green had never intended to abandon his invention, but had been prevented by circumstances from making application earlier, his delay should not be regarded as a bar to his rights as prior inventor. The affirmation of these two points, it will be seen, did not in any sense exclude evidence on the point whether Green had any right whatever to be regarded as the first inventor of the drive-well, which being made the basis of still another appeal to the Federal Supreme Court resulted in the utter defeat of this gentleman's claims. The facts in the case are briefly these: In June, 1861, Nelson W. Green made a drive-well in his grounds at Cortland, N. Y. That summer he was engaged in raising a volunteer regiment for the war, and in October, 1861, he made another drive-well to supply water to the camp at Cortland, where his soldiers were rendezvoused. In December following, Green, while endeavoring to carry out certain rules of discipline that he considered incumbent upon him to enforce, shot a subordinate officer, McNutt, inflicting a severe but not a fatal wound. Green was immediately suspended from his command, and was taken to Albany, tried before a military court there, and exonerated from blame. The case created great local excitement, so that when Green had rejoined his regiment it was

found necessary to send him to Washington under the special protection of a battery. In Washington Green's case was called up again, he was released, then dismissed, and all his subsequent efforts to secure a reinstatement were in vain. He was further attacked with civil suits at Cortland, was expelled from the church of which he was a member, and for the next four years and more was so harassed, as he claimed, by continued persecution and his fruitless efforts to obtain more lenient judgment, that he was almost out of his senses. During this time, he says, he never abandoned his purpose to patent his invention of the drive-well, and in 1866 he made application for, and in 1868 secured a patent. He secured a reissue in 1871, and from this time exacted a royalty of \$10 on every well built. As other persons had taken up the idea, and bored such wells on their own responsibility, there was naturally much objection to allowing Green's royalty in many cases. The drive-well, as our readers must know, is simply a hollow iron stake to be driven deep into the earth. Suction is applied at the top of the stake or tube, and the water is drawn up into the same through perforations in its sides. The invention has been widely used, and the unpaid royalties claimed by the patentees amount to millions. As the patent had expired, only wells made previous to Jan. 14, 1885, could be held subject to royalty, but against these Green and his agents held scores of suits. Indeed, it was asserted, in the trial of the last case, that there were probably in this country 2,000,000 drive-wells, against all of which this claim of \$10 each, was regarded as valid. But from the first the legality of this claim was contested. Now State courts have no jurisdiction in patent cases; these have to be decided by the United States Courts; first, by District or Circuit Courts, and on appeal from them by the Supreme Court. The first decision with regard to the Green patent was rendered by the United States Circuit Court for New York in 1876, sustaining the validity of the patent. Since then the patent has been before the United States District and Circuit Courts in at least ten of the States, and the decisions have been about equally divided for and against its validity. On appeals from these the case has been before the Supreme Court for years. Nearly two years ago it rendered its first decision on the matter, but as two of the justices were in favor of the validity of the patent and two against it, while one was absent, no settlement was made. We have given the tenor and scope of the decisions of May last, both of which favored Green's claims. It was supposed that this ended the litigation, but it did not. The United States Circuit Court for Iowa had decided against the validity of the patent on the distinct ground that the device had been in general use for over two years before Green's claim for a patent, while the law says that whenever this has been the case the "invention" has become public property and therefore no patent can be legally granted for it. The case was appealed to the Supreme Court over three years ago, but decision was not reached until Nov. 14, 1887. Justice Blatchford delivered the opinion which affirmed the decision of the Iowa court, and declared



that the patent was invalid from the first. It was shown by evidence brought forward in the case that between 1846 and 1861 no less than twenty-five wells such as Green had claimed to have invented had been driven and put in use by various persons in Ohio and other States, and that as early as Nov. 26, 1840, a patent was issued to one Ebenezer Rice "for an invention and process which was substantially and materially the same as that which is described in the original letters patent and re-issued patent issued to said Green." The decision probably completes the long history of litigation in the famous drive-well case.

#### THE SMALLEST STATES OF EUROPE.

Which is the larger of the two small European States, Andorra and Marino? Give dimensions and population of these States and mode of government. Is not one of these the smallest State in the world?

ANCON, Wis.

M. M. STONE.

*Answer.*—The Republic of Andorra is in the valley of the Eastern Pyrenees, between France and Spain. Its inaccessibility has protected its liberties from the earliest times. It was nominally subject to France, but as its people had aided Charlemagne in his campaign against the Moors, the Emperor rewarded them by conceding to them the privilege of self-government. The Republic to this day acknowledges France as its suzerain, and pays the French government an annual tribute of about \$400. It pays a similar tribute to the Bishop of Urgel, who, by traditionary privilege, wields the ecclesiastical patronage of the State. Otherwise the State is independent, and is governed by a sovereign council of twenty-four members, chosen by the people, and the council elects one of its number to be syndic for life and wield the chief executive power, assisted by a second syndic chosen in similar manner. Andorra has an area of between 200 and 300 square miles, and a population of about 12,000. San Marino, which claims to be the oldest and the smallest Republic of the world, is in the north-western part of Italy, enclosed on all sides by Italian provinces. It is situated in the heart of the Alpine district, 2,200 feet above the level of the sea. It has an area of seventeen square miles and a population of 8,000. It is said to have been first settled in the fourth century by Marinus, a Dalmatian hermit, and has always been independent. The legislative power of this little republic is vested in a "princely and sovereign grand council," composed of sixty members, who are elected for life, with power to fill vacancies—the nobles, citizens, and rural proprietors being represented in equal proportions. The executive power is wielded by two captains regent, who are chosen by the council every six months. There is also a kind of senate, composed of twelve members of the council, of which two-thirds are annually renewed. The captains regent are assisted by two secretaries of state, one for foreign affairs and one for the interior. For local administration there is an officer styled the syndic, appointed in each village. A still smaller state than either of the above is the principality of Monaco, on the Mediterranean coast of France, near the Italian frontier. It has an area of eight and one-third square miles and 8,500 inhabitants. This territory was from the tenth century in the possession of a

Genoese family, and was under protection of various governments until 1793, when the National Convention of Paris declared it a part of the French Republic. In 1815, however, it was restored to its hereditary owners, and was placed under the protection of Sardinia. Monaco up to this time included two adjacent communes, which its prince ceded to France in 1860 for a large indemnity. When the province of Nice was given to France in 1860 Monaco came under French protection. The province is under absolute control of the ruling prince, who appoints nearly all necessary officials. The present Prince, Charles III., in 1869 abolished all taxes, and since then has derived his revenue entirely from the rent of the gaming establishments of the city. But a still smaller European state deserves mention. This is the kingdom of Tavolara, comprising an island of about five and one-half square miles, northeast of the coast of Sardinia. It has something less than one hundred inhabitants. The absolute sovereignty of this island was granted early in this century by the King of Sardinia to the Bartoleoni family, the head of which has since borne the name of King of Tavolara and ruled his little domain with the form, at least, of regal dignity. King Paul I., who died a few years since, had held rule for over fifty years, and was a most generous and kind monarch and his death much lamented by his small family of subjects.

#### HOW TO TAN SMALL SKINS.

PINE BLUFF, WY. T.

Give directions for soft tanning the hides of such animals as coyotes, wolves, jack rabbits, antelope, etc., with the hair on, also, to tan the skins of small animals by removing the hair.

READER.

*Answer.*—To preserve the hair on these skins saltpeter and alum should be used. Spread out the skin with the flesh side up; have ready a mixture composed of two parts of salt and two parts of saltpeter and alum combined, pounded very fine. Sprinkle this thickly and evenly over the surface of the skin; then roll it up and leave it a few days till the applied powder has become dissolved. Then stretch the skin tightly on a board and scrape it, until the pelt is quite free from any adhering bits of flesh or membrane. Place the stretched skin in the sun till it is dry; then rub well with neat's foot oil, and put in the sun again for a day or two. Then scrape the oil all off with a piece of wood, and dust thoroughly with plaster of paris or whiting, which has been heated quite hot in an oven, rubbing it in with a flannel cloth. Now when dried and well brushed these skins are ready for manufacture into garments, rugs, etc. Animals should be killed in the winter time, when the growth of short hair, which nature provides for the protection of the animal during the cold season, is in its best condition. The skins of small animals, killed in the spring or summer time, can be made into leather which is excellent for strings, whips, patching gloves, mittens, and even shoes, repairing harness, etc., and can easily be tanned as follows: Put a layer of wood ashes two or three inches thick in some old vessel of convenient size, spread the skin out on this, put on two or three inches more of ashes, then pour on a little more water than the ashes will soak up. Let it stand until the hair can be easily scraped off with a chip, which will be from

twenty-four to forty-eight hours; then scrape off and wash thoroughly in several changes of water, or better in running water. Hang up, and when the skin begins to get dry around the edges, take down and pull and work until it is thoroughly dry and pliable, which will take perhaps two hours. As it dries it will turn to a beautiful white kid color.

#### SIR STAFFORD NORTHCOTE.

CHICAGO.  
Give a brief biography of Sir Stafford Northcote.  
R. JORDAN.

*Answer.*—Sir Stafford Northcote was born in London, Oct. 27, 1808. He was educated at Oxford, and studied for the bar. He first entered Parliament in 1855. He was Mr. Gladstone's private secretary for a time, and also held a secretaryship in the treasury. He first entered the Cabinet under Lord Derby, in 1866, as President of the Board of Trade, and was made Secretary for India during the following year. During his term of office the Abyssinian expedition was planned and carried out, and its success was largely due to his able management. As Chancellor of the Exchequer, however, which position he held from 1874 to 1878, Sir Stafford Northcote won his great reputation. He was regarded as an authority on all financial matters. He was the leader of the Conservative party in the Commons from Disraeli's elevation to the peerage until 1886, when he too was made a peer, with the title of Lord Iddesleigh. Americans should not forget that he was a member of the joint high commission on the Alabama claims. He died Jan. 12, 1887. Sir Stafford Northcote was not a man of brilliant parts, but was remarkable for his strong sense and clear judgment. These qualities, combined with his thorough uprightness and a frank, amiable manner, secured to him the great influence which he exerted for so many years over his fellow Conservatives of the House of Commons.

#### THE "FLOWERS OF THE FOREST."

ODELL, III.  
Can Our Curiosity Shop tell who is the author of the touching Scotch ballad whose refrain is "The flowers of the forest are a' wede away," and what battle is it supposed to refer to? READER.

*Answer.*—The poem was written by Miss Jane Elliot, a Scotch lady, a sister of the famous Sir Gilbert Elliot, of Minto, distinguished as a Parliamentary speaker, and also noted as a poet of considerable talent. Miss Elliot lived in the latter part of the eighteenth century. The poem was intended as a dirge for the slain on Flodden Field, and is often printed with the title "A Lament for Flodden." The "forest" of the poem refers to Selkirkshire and a portion of Peeblesshire and Clydesdale, which at that time claimed to produce the stateliest men and the finest archers in Scotland. The song refers to their great slaughter on Flodden's fatal field, from eight to ten thousand Scots being slain, including the flower of their nobility, gentry, and even clergy. There is scarce a Scottish family of eminence, Sir Walter Scott remarks, but had an ancestor killed at Flodden. Some of them lost all their male members that were capable of bearing arms. This would apply to the natives of the forest, and to those living near the border, who naturally would be there in greatest numbers. As the words of this beautiful

poem have become somewhat unfamiliar we may here quote them:

I've heard the liltin' at our yowe-milking  
Lasses a-liltin' before the dawn o' day,  
But now they are moaning on ilka green loanin'—  
The flowers of the forest are a' \*wede away.

At buchts, in the morning, nae blythe lads are  
scorning,

The lassies are lonely, and dowie, and wae;  
Nae daffin', nae gabbin', but sighing and sabbing,  
Ilk ane lifts her leglen and hies her away.

In hairst, at the shearing, nae youths are now jeering,

The bandsters are lyart, and runkled, and gray;  
At fair or at preaching, nae wooing, nae fleeching—  
The flowers of the forest are a' wede away.

At e'en, in the gloaming, nae swankies are roaming  
'Bout stacks wi' the lasses at bogles to play;  
But ilk ane sits drearie, lamenting her dearie—  
The flowers o' the forest are a' wede away.

Dule and wae for the order sent our lads to the  
border!

The English, for ance, by guile won the day;  
The flowers of the forest, that focht aye the fore-  
most,

The prime o' our land, are cauld in the clay.

We hear nae mair liltin' at our yowe-milking,

Women and bairns are heartless and wae,

Sighing and moaning on ilka green loanin'—

The flowers o' the forest are a' wede away.

\*Wede, withered.

#### NO MAN'S LAND.

ANGONA, Wis.  
Give an account of No-Man's Land. Where is it  
and why so-called? R. W. T.

*Answer.*—No-Man's Land is the strip lying between Colorado and Kansas on the north, and Texas on the South. It was ceded by Texas to the United States, and has been classed geographically with Indian Territory for convenience. It extends from the 100th to the 103rd meridian, and is about seventy-five miles in width. The following account has been given of its condition and settlement: "For forty years or more the country has been without a name and without law. Even the land laws of the United States do not cover its nearly 4,000,000 fertile acres. Its well-watered valleys have been a vast herding-ground. Those who are now living there enjoy to the fullest extent the 'squatter sovereignty' extolled by Stephen A. Douglas, and the great Illinois Senator is responsible for it. In fixing up the boundaries during the territorial legislation in which he took a leading part, this strip of land, containing 5,761 square miles, was left out entirely, and from that day has been absolutely without law. It is one of the most fertile spots in the United States, but for the reason that the land and other laws of the Nation do not apply to it settlers have been chary about going on to it. Two years ago some adventurous persons went in and took up lands. They are simply 'squatters.' They have no title whatever to the lands and can get none. The population has grown to 10,000, which lives without law or lawyers. Several small villages have grown up." In March, 1887, a provisional government



was established and the name of Cimarron, after its principal river, was given the territory. The provisional council was re-elected Nov. 8, at which time Owen G. Chace was elected a delegate to Congress. A bill for the organization of this land into a Territory had been brought up at the second session of the Forty-ninth Congress, but failed. Soon after the opening of the Fiftieth Congress, a bill for its organization under the name of Cimarron was brought, and was referred to the Committee on Territories.

#### GOVERNMENT OF RUSSIA.

LANSING, Mich.  
Give a short account of the government of Russia, its general and local administration. R. LARNED.

*Answer.*—The government of Russia is an absolute hereditary monarchy. The whole legislative, executive and judicial power is united in the Emperor, whose will alone is law. There are, however, certain rules of government which the sovereigns of the present reigning house have acknowledged as binding. The chief of these is the law of succession to the throne, which is by regular descent, by the right of primogeniture, with preference for male over female heirs, subject to the proviso that the royal family must belong to the Greek church. If any prince or princess contracts a marriage in opposition to the will of the reigning emperor, the children of such marriage are cut off from the succession. By an ancient law of Russia, the heir apparent is held to be of age at the end of his sixteenth year, and the other members of the family at the end of the twentieth year. In the duties of administration the Emperor is assisted by a cabinet of four ministers, and under these by four separate boards or councils. The first of these boards is the Council of the Empire, which was established in its present form by Alexander I. in the year 1810. It consists of a president and any number of members that he may desire, appointed by the Emperor. In 1886-7 there were sixty-two members in the council, including five members of the Imperial family. This council is divided into three departments, those of legislation, of civil administration, and of finance. Each department has its own president, and a separate sphere of duties; but there are collective meetings of the three sections. The chief business of this council is to examine into the projects of laws brought before it by the ministers, and also the details of the budget and the yearly expenditure. It has, however, no power to propose alterations and modifications of the laws of the realm, but is simply a consultative institution. A special duty of this council is also to examine into the petitions which may be made to the Emperor against the decisions of the Senate, which is the second board of the government. This board is known as the "Ruling Senate," and was established by Peter the Great in 1711. The functions of the Senate are partly of a deliberative, and partly of an executive, character. It promulgates all laws, and also serves as the high court of justice of the empire. The members of the Senate are all persons of high rank, or those who have won high positions, and the body is divided into nine departments, each empowered to decide in the last resort on certain descriptions of cases, and each presided

over by a lawyer of eminence, this officer representing the Emperor, and giving to the decisions of his department their binding force by his signature. The Senate further has power to look into the general administration of the empire, and may even remonstrate with the Emperor. A special department of the Senate passes judgment on political offenses, and still another examines into offenses committed by officials of the crown. The third board of government is the Holy Synod, also established by Peter the Great, which superintends the religious affairs of the empire. It is composed of three archbishops and several bishops sitting in turn. All its decisions must be approved by the Emperor, and are given in his name, as head of the church. The fourth board of government is the committee of ministers, having eleven members, as follows: The minister of the Imperial house, of foreign affairs, of war, of the navy, of the interior, of public instruction, of finance, of justice, of the State domains, of public works and railways, and of the department of general control. These attend to the executive business of the government. The local administration of the empire differs in different provinces, for the government has always allowed annexed countries to retain such of their laws and institutions as were compatible with the maintenance of the Czar's autocratic power. The whole empire is divided into districts. The governors of provinces and districts are advised and assisted by boards elected by the people. The boards have not, it is true, either legislative or administrative authority, but they have the recognized right to advise the governor, and to petition the Imperial government against him, and if their case is made out strong enough to cause his removal—hence they are by no means without influence. The government of the subdivisions of the districts are largely entrusted to the people themselves. For this purpose the whole country is divided into communes, or villages, which elect a starosta, or executive, and also a tax-collector, or superintendent of the public stores. Those officials are chosen at assemblies in which all the householders of the village take part, and from among their number. The mode of election is very informal. This assembly also manages the financial affairs of the commune, apportioning its land and sees to the execution of local laws. The communes are united into cantons, each having a population of about 2,000 people. Each of these cantons has an executive, a starshina, who is chosen by the people at a cantonal assembly, this body being made up of delegates chosen by the communal assemblies. These discuss and decide upon the affairs of the canton. There are also elective, district, and provincial assemblies chosen by the people, who preside over the economical affairs of these divisions.

#### ANTICOSTI ISLAND.

VIRIDEN, Ill.  
Give a description of the island of Anticosti, its products and people. J. H. S.

*Answer.*—The island of Anticosti lies in the northern part of the gulf of St. Lawrence, at the mouth of the river of that name. It is 118 miles long by thirty-one broad, and had at the last census 100 inhabitants in charge of the government

lights and stations. The island has some wood and, but it is for the most part covered with black peaty bogs and ponds like those of Ireland. The Anticosti Land Company attempted a few years since the reclamation of these bogs, but with little success financially. Game is found on the island at some seasons of the year, and in the summer and fall mosquitoes abound, which render the lives of the inhabitants miserable. The lighthouses are very necessary, as witness the wrecks that strew the shore, and the Dominion government has maintained supply huts along the coast, ever since the wreck of the *Gramicus*, in 1820. This vessel went to pieces on the southern point, and most of the crew reached the shore safely, but there found nothing to eat, and were forced to devour each other. None were rescued. The superstitious fishermen believe these coasts to be peopled with the ghosts of the victims of their many shipwrecks. The description of this dreary isle may well be completed with the following passage from the pen of the traveler Eliot Warburton: "The dangerous, desolate shores of Anticosti, rich in wrecks, accursed in human suffering. This hideous wilderness has been the grave of hundreds, by the slowest and ghastliest death they died—starvation. Washed ashore from maimed and sinking ships, saved to destruction, they dragged their chilled and battered limbs up the rough rocks, for a moment warm with hope they look around with eager straining eyes for shelter, and there is none; the failing sight darkens on hill and forest, forest and hill, and black despair. Hours and days waste out the lamp of hope, until at length the withered skeletons have only strength to die."

#### SIMPLE WATER TESTS.

HOMER, Ohio.  
Can our Curiosity Shop give some simple tests by which the presence of certain substances, such as earthy matter, iron, or lime, in water, can be ascertained?

H. M. A.

*Answer*—The presence of organic impurity in water can be detected by dissolving some loaf sugar in it, and then after putting in a tight stopper allowing it to stand in a warm, well-lighted room for a few days. If it becomes turbid, there are certainly organic impurities in it; if it remains clear it is pure and safe to drink. To test the presence of earthy matters, take litmus paper dipped in vinegar, and if, on immersion, the paper returns to its true shade, the water does not contain earthy matter or alkali. If a few drops of syrup be added to a water containing an earthy matter, it will turn green. To ascertain if the water contains iron, boil a little nut gall and add to the water. If it turns gray or slate black iron is present. Or, dissolve a little prussiate of potash, and, if iron is present, it will turn blue. The presence of carbonic acid may be ascertained, even in very small quantities, thus: Take equal parts of water and clear lime water. If combined or free carbonic acid is present, a precipitate is formed, to which if a few drops of muriatic acid be added, an effervescence commences. To detect magnesia, boil the water to a twentieth part of its weight, and then drop a few grains of neutral carbonate of ammonia into a glass of it, and a few drops of phosphate of soda. If magnesia be present it will fall to the bottom. We can ascertain the presence of even a very small quantity of lime if into

a glass of water we put two drops of oxalic acid and blow upon it. If it gets milky lime is present. The presence of any acid can be shown by dipping into the water a piece of litmus paper. If it turns red there must be acid. If it precipitates on adding lime water it is carbonic acid. The unfailing test for hard or soft water is to take a little good soap and dissolve it in alcohol. A few drops of this in a vessel of water will turn it quite milky if it is hard; if it is soft it will remain clear.

#### ANTIDOTES TO POISONS.

CHICAGO.

Our Curiosity Shop gave some time ago a list of poisons and their action. Can it not also give a table of the antidotes to poisons, the persons may have some guide to the proper thing to do in the emergency of an overdose, or an accidental case of taking a poison for a medicine, etc.

R. LILLIENTHAL.

*Answer*.—In nearly all cases of poisoning the first thing to do is to excite copious vomiting by means of a powerful emetic, the action being promoted by large draughts of lukewarm water, tickling the throat with the finger, etc. If the vomiting can not be brought on by this means the stomach-pump must be resorted to, but not till the simple methods have been tried. The vomiting should be kept up by giving albuminous liquids such as milk and water, barley water, or similar substances, always administered when lukewarm. After the vomiting has removed the poisonous substance, a mild aperient draught may be given, and nervous exhaustion allayed by very small doses of ether or ammonia, or draughts of wine or hot spirits and water. Generally speaking, a tablespoonful of the flour of mustard mixed with warm water will serve as an effective emetic. Whenever medical aid is accessible it should be called immediately to a case of poisoning. For special antidotes, we take the following directions from a chemical journal, giving the substances most useful in counteracting the effects of poisonous chemicals: "For phenic, sulphuric, muriatic, nitric, or nitro-muriatic acids, creosote, tincture of iodine, or phosphorus, use the white of an egg well beaten up in water, and a teaspoonful of mustard in warm water. In case sulphuric, nitric, or muriatic acid has been swallowed, it is necessary to take lime mixed with as small a quantity of water as possible. For chromic acid, the chromates and colors that have chromium for a base, the compounds of copper, and such preparations as have antimony for a base (such as tartar emetic), and the compounds of mercury and zinc, use the white of eggs in abundance, and, as an emetic, mustard, which, however, is useless if the poisoning has been done by tartar emetic. For ammonia, soda, potassa, the silicates, and the alkaline hydrosulphates, use vinegar, and afterward oil or milk. For prussic acid and its salts, the cyanides of potassium and mercury, the sulphocyanides, oil of bitter almonds, or nitrobenzine, pour water on the patient's head or spinal column, and put mustard plasters on the feet and the stomach. Do not let the patient go to sleep. For ether, petroleum, benzole, fruit essences, and concentrated alcohol, take strong mustard as an emetic, with much warm water, cold baths and fresh air. Keep the patient awake. For the compounds of baryta or lead, use mustard as an emetic, with warm water, Epsom salts or Glau-



ber's salts in water. For arsenic and its compounds, use mustard, and dialyzed iron with magnesia, and, afterwards, oil, mild, or mucilaginous liquids. For oxalic acid and its salts, use lime or lime water, and afterward castor oil. For nitrate of silver, use kitchen salt dissolved in water, and mustard as an emetic. For the nitrous fumes from the manufacture of the nitrate of iron, or of sulphuric acid, take acetic acid as strong as can be endured, in small quantities at a time."

## BENVENUTO CELLINI.

CHICAGO.

Give a brief biography of the noted Italian, Benvenuto Cellini. C. R.

*Answer.*—Benvenuto Cellini was born in Florence, Italy, in 1500. His father was a musician, and wished his son to follow the same profession, but the young man showed so much talent as an engraver that he engaged in the business of cutting dies and medals, and working in the precious metals. He went to Rome, where he made the die for a gold medal of the Pope, Clement VII, which pleased his holiness so greatly that he immediately took the young engraver into his service. This position gained him both employment and fame. When Rome was attacked by the forces of the constable de Bourbon, Cellini took an active part in the defence of the city, and always claimed that he killed both the constable and the Prince of Orange in the fight. The city was plundered, however, by the invaders, and this depriving Cellini of the prospect of future business, he went to Mantua and then to Florence. While there he devoted himself principally to the making of medals. He returned to Rome a few years afterward, and was there appointed engraver to the mint. He subsequently went to Florence and executed a number of designs for the palace at Fontainebleau. He returned to Italy in 1545, and at Florence made his celebrated bronze figure of Perseus with the head of Medusa, which is one of the great art works of the world, and is now to be seen in the "Loggia de Lanzi," at Florence. He was then employed upon many important works, and became very famous. He married at the age of 60, and in 1570 he died. Cellini was a sculptor of much talent, but as a goldsmith he was even more famous, and his work in this line was for many years regarded as unequalled, though the achievements of modern French artists are said to surpass it.

## FREDERICK J. FARGUS.

BAXTER SPRINGS, Kan.

Give a brief sketch of Fred. J. Fargus, the author, better known as "Hugh Colway." READER.

*Answer.*—Frederick J. Fargus was born in Bristol, England, in 1847. He received a fair education, and entered commercial life, displaying apparently, in youth, no literary ambition or taste. He was an auctioneer at Bristol, and never was heard of as an author till he attained a sudden reputation, in 1884, by a work entitled "Called Back." It is said that he wrote it in ten weeks, and received \$4,000 for it from a Bristol publisher. It was first printed in November, 1883, and for a few months seemed to have attracted no attention whatever. Then it suddenly sprang into popularity, and its publisher was so overwhelmed with orders that he was obliged to purchase four new

presses to get out books fast enough for the demand. The book was published in the United States, where it had also a phenomenal sale. It was subsequently translated into French, German, Italian, Swedish, Spanish, and Dutch. Its great success was followed up by a rapid publication of other stories by Mr. Fargus, most of them, probably, written before the publication of his first works. Their titles were: "Dark Days," "Bound Together," "Carriston's Gift and Other Tales," "A Family Affair," "Slings and Arrows," and "A Cardinal Sin." All of these were also republished in the United States. "Called Back" was dramatized and placed on the stage with considerable success, both in England and the United States. Mr. Fargus was also the author of a volume of poems and several popular songs. His health was not good, and he went to Monte Carlo, Italy, in the winter of 1884, and died there on April 13, following. Mr. Fargus' books are characterized with abundant wealth of incident, and the action of the story is so rapid and dramatic as to excite absorbing interest, but they are almost wholly wanting in literary merit.

## A NOTABLE LITERARY HOAX.

CHICAGO.

Tell something about that extraordinary work of Defoe's, called "Mrs. Veal's Apparition." Is it known whether the story is true or not?

READER.

*Answer.*—The story is known to be absolutely and purely fiction. Daniel De Foe, as all readers are aware, was a very genius at hoaxing. No one who has ever read through Robinson Crusoe is surprised at the readiness with which the tale was accepted, when first printed, as a real experience. This author's accounts of the great fire and the great plague are even now often taken as fact by their readers, as they were when first written, less than half a century after the terrible events occurred. Yet De Foe never witnessed the scenes which he so vividly described, having been an infant in arms when the plague broke out, nor is it probable that many of the incidents had ever any existence outside of the writer's imagination; yet so skillfully did that imagination work upon actual knowledge of the conditions of life and surroundings that these fictitious narratives have far more power than many a contemporaneous history of other times. But none of De Foe's hoaxes surpassed in interest or cleverness the remarkable history of Mrs. Veal. A certain bookseller of London found himself with a large edition of a book called "Drelincourt on Death" on his hands, and consulted De Foe as to some means of disposing of it. A few days after, this fertile author furnished the MS. of a pamphlet entitled, "The True History of an Apparition of One Mrs. Veal, the Next Day After Her Death, to One Mrs. Bargrave, at Canterbury, the 8th of September, 1705." The business-like, homely, commonplace air of truth that pervaded the whole story was irresistible to the average reader. He felt compelled to believe it. Especially was it convincing to the ladies. The apparition wore a washed silk gown. Her friend did not know that she had had that particular gown washed, but afterward learned that she had. What a convincing air was in this small detail! "Don't tell me," said a lady to her husband who doubted the story, "that you know anything

about washed silk!" And the point of this ghost story was—alas, that any could miss the point of the joke therein!—that this good woman had returned to her neighbor's tea-table to declare that Dr. Dreincourt's book on death was the wisest and truest volume ever written on the subject. This pamphlet was circulated, and brought an immediate demand for the book. The copies, to borrow an illustration used by Sir Walter Scott, who was very fond of telling this little story, "which had hung on the booksellers' hands like a pile of leaden bullets, now traversed the town in every direction, like the same bullets discharged from a field piece." A new edition of the book was soon printed, with which was bound the remarkable pamphlet. Of this volume fifty editions have since been sold; it has made fortunes for both publisher and bookseller, and is still in England a salable book. And thousands of people still buy it, and still quote Mrs. Veal's case as one of the authentic supernatural appearances on record, thus bearing effective, though unconscious, witness to De Foe's genius for hoaxing.

#### CHEAP QUININE.

CHICAGO.  
What is the cause of the great reduction in the price of quinine during the past ten years. Is it solely a reduction of the tariff? M. MORTON.

*Answer.*—The tariff on quinine has been reduced of late years, but this has been but slightly effective in reducing the price of the drug. The recent great reduction is owing to two far more efficient causes. In the first place, it has never been possible to get more than a limited quantity of the substance, a given weight of the bark yielding but 2 per cent of quinine, the remainder being mere refuse, and further the crude method of obtaining the cinchona bark destroyed the tree, and a new growth was needed to secure even a limited supply. It was the custom to strip the tree entirely clean of the bark, and leave it to bleed to death. But some ingenious person introduced the custom of swathing the trees in moss as soon as they were denuded of their natural covering. The result was found to be that new bark would immediately form, which in the space of a year could be again removed. Thus, a grove of cinchona trees, instead of being temporarily valuable, becomes of permanent and lasting profit to its owner, and is able to furnish a steady increase of the valuable commodity made from its bark. Secondly, about the time that this increased supply began to affect the market the long search for a method of manufacturing this important drug was rewarded by success. This was first announced as accomplished in the summer of 1886. Dr. Matheson, of London, was the first, it is said, to suggest the synthetical manufacture of quinine, but the honor of completing the discovery of the process is due to Mr. Crosswell Hewitt and Professor Parkes, both English scientists of some note. The details of the process have not yet been made public, but the inventors say that it is very simple, and that by it the drug can be made without limit from an article which can always be had in abundance in any part of the world. The reduction in the price of quinine by the improved methods of caring for the cinchona tree has thus far lowered it from \$5 to \$1 an ounce. It is said

that when Mr. Hewitt's process becomes generally known and used the price will be reduced to about 6 cents an ounce.

#### CASTRO GIOVANNI.

GRAND LEDGE, Mich.  
Give a history and description of the city of Castro Giovanni, Italy. E. F. TANNER.

*Answer.*—The city of Castrogiovanni, or Castro Giovanni, is in Sicily, in the province of Caltanissetta, thirteen miles north of the chief town of the province. The place is remarkable for its history and present appearance. It is situated on a plateau or rocky height in the middle of Sicily, and is 4,000 feet above sea level; the site rises precipitously, and is the loftiest of any inhabited town on the island. In ancient times its situation made it one of the strongest natural fortresses in the known world. The town as it is now seen presents an appearance of poverty and wretchedness, as the dwellings are greatly decayed. It is supposed that Castro Giovanni occupies the site of the ancient Enna, of which the presiding goddess was Ceres; and here was the most famous temple erected to her. The neighborhood was the scene of the fabled abduction of Proserpine by Pluto. During the Punic wars, Enna was prominent, and during the struggles of the insurgent slaves, that is, in the Servile war, about 100 B. C., the headquarters of the revolutionists were at Enna. There remain castle and other buildings, some of which are of Saracenic origin.

#### THE ART OF ETCHING

CHICAGO.  
Give a history of the art of etching, with mention of noted etchers. READER.

*Answer.*—The art of etching was introduced about the middle of the fifteenth century by Tomaso Finiguerra, a Florentine. Its value met with prompt recognition in France, Italy, and Germany, but it was reserved for later times to carry it to a state of perfection. It is an open secret that etching is the corrosive action of certain acids on metal and glass; the plates acted upon having been covered with wax bearing the design that has been wrought with the etcher's needle. Etching was first regarded as an industrial art, but it soon grew to have a higher value, reproducing in graceful freedom and precision of touch the very feeling of the artist. At the end of the fifteenth century Sandro Botticello popularized the art by embellishing Dante with etching illustrations. The great German etchers of the time were Shoenen, Bechellin, and Wohlgrath, and the Italian representatives were Bacio, Baldini, Pottagnala, and Montagna. In the succeeding century Gotzius and others reproduced through etching with wonderful mobility the old masters. Toward the middle of the seventeenth century there was a revival of the art, and great improvement, that was carried to a high degree of artistic skill and perfection in the latter part of the century by Le Bas and the Spanish school. For some strange reason the art of etching then passed into a stage of innocuous desuetude, and steel engraving began to grow in favor to be eventually succeeded by the popular chrome and later by the lithograph. Phillip Gilbert Hamerton is largely responsible for the revival of the art in England where Seymour Haden was the leading



representative, as Count de Gravesande was for France. Whistler, the eccentric American, is one of the leading lights in the graphic art in England. Hamilton Hamilton is probably the most prolific etcher in America; but as it is the popular art of the day its votaries are legion. Among the greatest of modern etchers are Salonne, Couteau, Waltner, Rajon, De Baines, and Koepping.

#### MECHANISM OF THE HEART.

What is the pulsation of the heart in men and animals? Give the mechanical power of the human heart.

ANCONA, Wis.

M. A. R.

*Answer.*—In the human subject the average rapidity of the cardiac pulsation for an adult male is about 70 beats per minute. These beats are more frequent, as a rule, in young children and in women, and there are variations within certain limits in particular persons, owing to peculiarities of organization. It would not necessarily be an abnormal sign to find in some particular individuals the habitual frequency of the heart's action from 60 to 65, or from 75 to 80 a minute. As a rule, the heart's action is slower and more powerful in fully developed and muscular organizations, and more rapid and feeble in those of slighter form. In animals, the range is from 25 to 45 in the cold-blooded, and 50 upwards in the warm-blooded animals, except in the case of the horse, which has a very slow heart-beat, only 40 strokes a minute. The pulsations of men and all animals differ with the sea level also. The work of a healthy human heart has been shown to equal the feat of raising 5 tons 4 cwt. one foot per hour, or 125 tons in twenty-four hours. The excess of this work under alcohol in varying quantities is often very great. A curious calculation has been made by Dr. Richardson giving the work of the heart in mileage. Presuming that the blood was thrown out of the heart at each pulsation in the proportion of sixty-nine strokes per minute, and at the assumed force of nine feet, the mileage of the blood through the body might be taken at 207 yards per minute, seven miles per hour, 168 miles per day, 61,320 miles per year, or 5,150,880 miles in a lifetime of 84 years. The number of beats of the heart in the same long life would reach the grand total of 2,869,776,000.

#### TRANSFORMATION OF THE DESERT.

ROME, Mich.

I have recently read that the Desert of Sahara is being transformed into an entirely fertile district. Is this true, and how is it being done?

R. T. SMITH.

*Answer.*—About five years ago, Colonel Rondaire, of the French army, brought forward a proposal to transform the chotts of Southern Tunis into an inland sea. The barren wastes were said to be eighty feet below the level of the Mediterranean Sea, so that a short canal would suffice to flood a vast section of the Northern Sahara. The Tunisian Arabs protested, as their date palms would not flourish in the proximity of salt water, but considerable interest was aroused in the project, and it seemed quite probable that a company might be successfully organized to attempt it. But while the matter was still in discussion, in the summer of 1885, an alternative proposal was made by another army officer, Colonel Landas, who pre-

ferred to keep the sea out and irrigate the desert, and so transform it into a fertile district. Colonel Landas immediately commenced to work on these lines, and in 1886 he presented to the French Academy of Science a report, in which he stated that he had driven an artesian well into the desert to the depth of 300 feet, which was discharging fresh water at the rate of 2,000 gallons a minute, which sufficed for the irrigation of 500 hectares. This area was a desert a year before, and had been thus transformed into a fertile and well-stocked district. A number of similar wells have since been driven, and this so recently desolate district is said now to have some forty irrigated oases, on which some 200,000 young fruit and forest trees are growing, and several thousand people have already settled upon them. It seems possible that this transformation will, in another century, make of the great desert of Sahara one of the gardens of the earth.

#### PRINCE VON BISMARCK.

LYNN, Mass.

Please give a brief biography of the Chancellor of Germany—Bismarck.

R. T. N.

*Answer.*—Karl Otto, Prince von Bismarck, was born at Schoenhausen, Germany, April 1, 1815. He studied at Gottingen, Berlin and Griefswald, entered the army, and was afterward a lieutenant of the "Landwehr." He became a member of the Diet of the province of Saxony in 1846, and of the General Diet, in which he made himself conspicuous for the boldness of his speeches in 1847. He was a staunch monarchist, nor did the revolution of 1848 weaken his opinions. In 1851 he entered the diplomatic service and was entrusted with the legation at Frankfort. In 1852 he was sent to Vienna. Before this, in 1850, he was sent as ambassador to St. Petersburg, which post he held until 1862. In May of that year he was sent as ambassador to Paris. He was made minister of foreign affairs in Prussia Sept. 22, 1862. After the close of the aggressive war waged by Prussia and Austria against Denmark, Bismarck thought the time had arrived for carrying out his long cherished project of making Prussia the real head of Germany, and accordingly war was declared against Austria, and that power defeated in a campaign of fifteen days. Bismarck was made a count Sept. 15, 1865. In 1867 he organized the North German Confederation, and made Prussia its head. On the 1st of July of the same year Bismarck was made chancellor of the confederation and president of the federal council. About this time the Luxemburg question gave rise to a serious rupture between Prussia and France, which was finally settled by the neutralization of that province. On Jan. 1, 1869, he entered upon his duties as foreign minister of the North German Confederation.

#### THE WELDING OF METALS.

CHICAGO.

Mention is made in your department of the welding of metals by electricity by a new process. Tell us something about it.

RICH. GALT.

*Answer.*—The process referred to consists simply of passing through the metals to be welded a current of electricity of great power. The ends are forced together tightly before the current is passed and the resistance to the passage of the electricity from one metal to the other creates heat sufficient to fuse it at the point of contact while

the pressure makes the joint. The inventor of this new process is Professor Thomson, of Lynn, Mass. Hitherto the process of welding has been successfully applied only to soft iron, steel, and a few other metals. But by the new method, not only have cast-iron, brass, gun metal, bronze, German silver, zinc, tin, lead, and many other metals been welded like to like, but it has been found in many cases very easy to unite unlike metals. Small pieces, too, which were formerly difficult to weld on account of rapid cooling, are easily dealt with by the new process. Wires less than .02 of an inch in diameter have been united, and in the other direction the size has been limited only by the power of the apparatus used.

#### FORTY-THIRD ILLINOIS INFANTRY.

Give a brief history of the Forty-third Illinois Infantry.

WIOFA, Wis.  
W. FOSS.

*Answer.*—The Forty-third Illinois Volunteers was organized at Camp Butler in September, 1861, and mustered in Oct. 12, Julius Raith, Colonel. It was immediately sent down to Missouri. In February it was sent southward by the river, and took part in the capture of Forts Henry and Donelson. It was also in the front at Shiloh, where, out of a total of 500 taken into action, it had forty-nine killed and 157 wounded and missing. Colonel Raith being mortally wounded in this fight, Lieutenant Colonel Engelmann was put in command. It was stationed at various points in Tennessee and Mississippi during the remainder of the year, and shared in various skirmishes. In the spring of 1863 part of the regiment was mounted, and several scouting expeditions through Northern Mississippi were made. In August the regiment joined General Steele's command at Helena, Ark. In September it moved down to Little Rock, which the enemy had just evacuated. In the following March took part in the Red River expedition, and in the retreat, shared in the battle of Jenkins' Ferry, losing heavily. From this time the Forty-third remained at Little Rock until its three years' term had expired. About three-fourths of its men having re-enlisted in the veteran service, the regiment was completed to its full number with drafted men in December, 1864, and Lieutenant Colonel Dengler was put in command. The regiment remained in camp at Little Rock till its muster-out Nov. 30, 1865.

#### EMBLEMS OF THE APOSTLES.

VERONA, Mich.

Why is St. Peter always represented as carrying a key in his hand, and St. James with a staff in his hand? Give the emblematic signs of all the apostles and explain them.

READER.

*Answer.*—The emblem of St. Peter, a large key, or keys, is readily explained as referring to the words of Christ to Peter (Matt. xvi. 19): "And I will give unto thee the keys of the kingdom of heaven." A book is also used in some portraits of St. Peter, with probably no more significance than to indicate his calling as a teacher of the Holy Word. The artists of early times, having no knowledge of the features of the apostles, used some signs to designate them, which might always be recognized. For this purpose, frequently, a symbol of the holy man's martyrdom was used. The list, with as much explanation as can be given, is as follows: The emblem of St. Paul was a sword and a book,

the latter to indicate his calling as teacher, the former to remind the beholder that he was beheaded with the sword. That of St. Andrew was a cross, like the letter X, because he was crucified on one of this shape; that of St. James the Great, a sword, in token of his beheading, or some times a pilgrim's staff, as he was a great traveler, and is thought to have journeyed all over Southern Europe. St. John has the emblem of a caldron, in remembrance of the fact that he is said to have been once thrown into a caldron of boiling oil, but miraculously escaped injury: he has also sometimes a dragon, or an eagle, by which the imagery of the book of Revelation is probably indicated. Why St. Philip should have a spear and a cross, when he suffered death by hanging, we cannot say, but probably the manner of his death was not exactly known. St. Bartholomew, having been flayed alive, is represented with a flaying knife and with his skin hanging over his arm. St. Matthew usually has a carpenter's square, in reference to the occupation of Christ as a man, perhaps; sometimes he has a spear to indicate martyrdom, though he is usually believed to have been slain with a sword. St. Thomas bears a dart, as having perished by being run through with a lance; St. James the Less a club with which he was beaten to death; St. Matthias, an axe with which he was beheaded; St. Simon's emblem is a saw, and that of St. Jude a halberd, which must be general emblems of martyrdom, or point to some legend now forgotten, as it is known that the former saint suffered death by crucifixion, and the latter by being shot with arrows.

#### A TARIFF QUESTION.

DAKOTA, Minn.

Please answer through the Curiosity Shop the following questions: 1. What is the duty on each of the various articles bought and sold by most farmers in the United States? 2. Is there an import duty on farm machinery, and if so how much? 3. Upon what articles does the English government levy an import duty?

A. N.

*Answer.*—1. On articles sold by the farmer: Live stock (except for breeding purposes), 20 per cent ad valorem; beef and pork, 2 cents per pound; hams and bacon, 2 cents per pound; butter and cheese, 4 cents per pound; lard, 2 cents per pound; wheat, 20 cents per bushel; rye and barley, 10 cents per bushel; malt barley, 20 cents per bushel of 34 pounds; pearled or hulled barley, ½ cent per pound; Indian corn, 10 cents per bushel; corn meal, 10 cents per bushel of 48 pounds; oats, 10 cents per bushel; oatmeal, ½ cent per pound; rye flour, ½ cent per pound; wheat flour, 20 per cent ad valorem; potatoes, 15 cents per bushel; potato, rice, or other starch, 2½ cents per pound; hay, \$2 per ton; honey, 20 cents per gallon; hops, 8 cents per pound; milk, condensed or preserved, 20 per cent ad valorem; pickles, sauces, etc., 35 per cent ad valorem; vinegar, 7½ cents per gallon; tobacco, from 30 cents to \$1 per pound; wool, from 5 cents to 12 cents per pound; flax, \$40 per ton. As to articles purchased by the farmer, coffee, tea, guano, bones, bone dust, and all articles used for manures are duty free, and so are many other things; in fact, more articles are free than taxed. Of taxed things which the farmer buys are cotton prints, on which the duty is 5 cents a yard; but home goods often sell for less than the duty. Nails



are taxed  $1\frac{1}{4}$  cents per pound, and are sold at wholesale at 21-10, which is less than they would cost if imported duty free. The tariff on woolen goods varies as to quality, but fair qualities of American goods sell cheaper than English; it is only on the highest grade of goods that the tariff operates practically. It is impossible to give a list of import duties in this article. They may be found on pages 489 to 525 U. S. Statutes 1883. 2. No. 3. Upon tea, coffee, spirituous liquors, wines, cocoa, tobacco, soap, fruit, and numerous other articles.

#### POSTAGE-STAMPS AND THEIR PORTRAITS.

CHICAGO.

When were postage-stamps first used? When were they first used in this country? Give the names of the portraits on the different stamps.

READER.

*Answer.*—Postage stamps in the form of stamped envelopes were first used by M. de Velayer, who owned a private post in the city of Paris in the reign of Louis XIV. Over a century later, in 1768, M. de Chamouset, also the proprietor of a post, issued printed postage slips to be attached to letters. This enterprising person also had letter-boxes at different points in the city, in which letters with the postage attached might be placed, to be taken up by his trusty agents. Some years later the French government bought up all the privileges that it had previously granted to private persons for the carrying of letters, and it allowed the postage slips of M. Chamouset to go out of use. In Spain, in 1716, and in Italy also, stamped covers for mail matter were tried, but it was not until 1840 that stamps as we know them now were put in use. This was in England, where the scheme of prepaid cheap postage, which had been long advocated by Rowland Hill, was tried in that year, with considerable unwillingness on the part of the government at first, but was found to be entirely successful. Brazil was the first country to take up the new invention, but when it was proposed to place the portrait of the sovereign on the stamp, as in England, the convenient letter appendage was in danger of being tabooed forever, so strong was the unwillingness to allow this honored profile to be defaced with the postmaster's cancel mark. Russia adopted the postage stamp next, in 1845, then Switzerland in 1846, and March 3, 1847, the Congress of the United States authorized the issue of postage stamps. These were at first a 5-cent stamp bearing the head of Franklin and a 10-cent one with a portrait of Washington. The reduction of rates in 1851 gave us a new set of stamps, valued at 1, 3, and 12 cents respectively. Other stamps of different values were added from time to time to meet the exigencies of postal arrangements, reduction of postage to foreign countries, etc. Before 1845 the postal rate on letters in this country varied from 6 cents for carrying a distance of thirty miles to 25 cents for over 400 miles. By the reduction of that year the postage was made 5 cents for 300 miles or less and 10 cents for any distance above that. In 1851 the rate was fixed at 3 cents for every half-ounce for 3,000 miles, and 6 cents for any greater distance within the United States. In 1883 the postage was reduced to 2 cents for half an ounce for letters sent less than 3,000 miles, and in 1885 to

2 cents an ounce. The portrait on the 2-cent stamp now used, in terra cotta color and green, is the same as that formerly used on the 3-cent letter stamp, both in green and red, that of Washington after Houdon's celebrated bust. On the old 2-cent stamp in vermilion was the head of Jackson from a bust by Hiram Powers. The old 1-cent stamp in ultra-marine blue is that of Franklin after a profile bust by Rubricht; the new one also has Franklin, from the bust by Ceracchi, the noted Italian sculptor. The old 5-cent stamp in blue bore the portrait of Zachary Taylor, and the later one in drab has the head of Garfield, from the photograph taken in the latter part of his life, of which a copy was sent to Queen Victoria. The Lincoln profile in red on the 6-cent stamp is after a bust by Volk. The old 7-cent stamp, in vermilion, had the head of Stanton, after a photograph. The head of Jefferson, on the 10-cent stamp, in chocolate, is drawn from a life-sized statue by Hiram Powers. The portrait of Henry Clay, in neutral purple, on the 12-cent stamp, was after a bust by Hart. The head of Webster on the 15-cent stamp, in orange, is after the Clevinger bust. The portrait of General Scott on the 24-cent stamp, in purple, was after a bust by Coffee. The head of Hamilton on the 30-cent stamp, in black, is after the Ceracchi bust; the portrait of Commodore Oliver Hazard Perry, in carmine, of the 90-cent stamp, is after Wolcott's statue. The 7, 12, and 24-cent stamps were retired from use a few years ago, though one may still occasionally be seen. We had a series of stamps issued in 1869, of which the 3-cent, letter stamp, was in dark blue, bearing the picture of a locomotive. It was designed in commemoration of the completion of the Pacific Railroad, and it was shorter and wider than the usual stamp size, but for some reason it was soon retired from use. With this exception, our postage stamps have always borne, we think, the head of some noted statesman. Looking over the stamps of other nations we find the portrait of the reigning king or queen most generally employed. In England and the British colonies there are nearly two hundred different stamps which have the portrait of Queen Victoria. Of the countries which do not use the conventional portrait we may mention France and several South American states, which have the goddess of liberty; British Guiana, which has a ship; Colombia, a shield, and the Central American states, a series of landscapes, generally including a volcano. Egypt, also, has the pyramids and sphinx; Turkey, the sultan's sign manual, and Rome, the papal tiara and keys.

#### INJURY TO LIFE AND LIMB.

ST. LOUIS, MO.

What is the usual damage awarded for the loss of life in a railway accident, also for the loss of a limb? On what are these amounts based?

R. L. T.

*Answer.*—We do not think that the awards are uniform, especially for accidents that are disabling only, and the amount awarded depends generally on the liberality of the jury. But the value of a life taken by an accident has been several times fixed at \$5,000, and that may be assumed as a limit that will usually be granted. This amount is not

based upon vital statistics, as these place the value of an adult person to the State at \$750, and the annual productive power at \$95. One-half of all deaths occur during the productive age. The total annual deaths in the United States during this age is 200,000, therefore creating a loss of \$150,000,000. There are also 1,500,000 persons sick all the time in the United States, causing a loss of \$142,500,000. This fact, and the additional one that a very large proportion of deaths are caused by preventable diseases, show us the economic value of boards of health. The relative market value of the different parts of the human body has been calculated by a German mathematician with a view to fix a basis for the award of damages in case of disablement. The loss of both eyes, arms, legs, hands, or feet, is put at 100, that of the right arm at 60, of a foot at 40, of the left hand at 50, the right hand at 33½, an eye at 23, the left thumb or right forefinger at 15, the left forefinger at 8, and any other finger of the left hand at 4 per cent.

#### A HERO OF THE MIDDLE AGES.

CHICAGO.  
A brief biography of the great Bohemian warrior, John Ziska, would oblige a reader.

W. B. WALLER.

*Answer.*—It is said that the real name of this renowned leader in the religious wars of Europe was John Trocznow, but he acquired the name of Ziska (meaning one-eyed) from the loss of an eye in battle. He was born on his ancestral estates at Trocznow, in Bohemia, about 1380, was of one of the noblest families in the country, and was brought up in the court and camp of the Emperor. He volunteered to aid the Teutonic knights in the war against the Poles, and was at the battle of Tannenberg, where the knights sustained a terrible defeat July 15, 1410. He also served against the Turks in Hungary, then entered the English army, and took a valiant part in the battle of Agincourt in 1415, after which he returned to the Bohemian court. Like the greater number of his fellow countrymen, he had embraced the tenets taught by John Huss, and he shared fully the indignant feeling which the execution of Huss had excited throughout Bohemia. The intense bitterness between the Hussites and the Roman Catholics soon gave rise to riots and disturbances. In the midst of these the feeble Bohemian King, Wenceslas, who had been friendly to the Hussites, died, and his brother Sigismund, the Emperor of Germany, and next heir to the Bohemian throne, endeavored to repress the new religion by stringent laws. The Bohemians therefore resolved upon open revolt. They elected John Ziska their general, and in a few months he had raised and disciplined a powerful army, and organized a war of independence throughout Bohemia. The Emperor invaded the country, but Ziska attacked and defeated him on a hill near Prague, July 11, 1420. This place is still called Ziska's Hill. A negotiation and temporary peace followed, but the war soon broke out again with redoubled violence, each side being exasperated against the other by religious fanaticism, and by thirst for retaliation for deeds of atrocious cruelty. Ziska was everywhere victorious. He invaded Austria and Hungary, and at the siege of the Castle of Raab he lost the sight of his remaining eye by an arrow wound. This, however, did

not interfere with his activity or his generalship. He was carried in a car at the head of his army, and through his knowledge of the country, and the descriptions given by his officers, continued to give orders for the movement of the army. His repeated victories at last convinced Sigismund that it was impossible to reduce Bohemia, and the Emperor therefore made proposals of peace to the blind general, offering full religious liberty to the Hussites, and the post of Governor of Bohemia to Ziska, with numerous privileges. Before negotiations were completed, however, Ziska was taken ill of the plague, and died Oct. 11, 1425. This hero was victor in over 100 engagements, and won thirteen pitched battles. He had but one reverse, and even in this conducted his retreat so skillfully as to give it the effect of a victory. The great stain upon Ziska's character was his cruelty. He regarded himself as an instrument chosen by the Lord to visit his wrath upon the nations, and as in his zeal he asked no mercy, he gave none to his enemies. His line of march could be traced through a country by the devastation and ruin it left behind it, by the ashes of plundered villages, and the bleaching bones and rotting corpses of their inhabitants. Ziska was buried in the Church of Czaslau, with his battle-ax hung above the tomb. but in 1623 his bones were removed by an imperial order, and the people never knew what became of them. There is a legend that by Ziska's dying orders his skin was, after his death, made into a drum, and used by the Hussites in their subsequent wars, but this is regarded as a pure fable.

#### GREAT BRITAIN AND THE CONFEDERACY.

MANHATTAN, Kan.  
Did England recognize the Southern Confederacy as a belligerent power any time during the late rebellion? If so, when and under what circumstances?  
W. T. SWINGLE.

*Answer.*—The course of Great Britain during the rebellion was not always consistent, and not always friendly to the Union, and there is much of the history that needs to be reproduced in order to show clearly what were the changes of policy of the administration toward this government. On May 13, 1861, says Appleton's Annual Cyclopedia for that year, the Queen issued a proclamation, declaring her determination to maintain a strict neutrality between the two contending parties, to both of which the rights of belligerents were to be accorded, and warning her subjects against aiding or assisting either party, as they would thereby throw themselves out of the pale of British protection, and on conviction of such offense would be punished by fine and imprisonment. This recognition of the Confederacy as a belligerent and according the rebels the same standing as the Union no doubt exercised great influence on the British mind, and gave the rebels hopes of final active support. The fact was that many of the leading journals of England were hostile, open and pronounced, to the Union, and many prominent men lent additional courage to the Confederacy. The press of Great Britain, with a few honorable exceptions, was very bitter against President Lincoln, and even went to the extent of vulgar abuse regarding his personal appearance, etc. The Mason and Slidell incident, known in history as the Trent affair, tended to increase the virulence of the



British press toward the United States, a temper which Prince Albert used his influence to calm. The feeling favorable to the South continued, however, and resolutions were offered in Parliament for the recognition of the Southern Confederacy. These were withdrawn at the request of the Premier, Viscount Palmerston. In spite of the notifications of the United States that the privateer "Alabama" was being fitted out in British waters to prey on American commerce, that war vessel was allowed to depart from a British port, and bring such damage to American shipping that Great Britain afterward conceded the claims known thereafter as the "Alabama claims." During the year 1863 the ship-owners who had fitted out blockade runners were most active in Great Britain to secure the full recognition of the Confederacy. So eminent a man as Earl Russell stated in the British House of Lords, on March 23, 1863, that he did not believe the Federals would be successful, and yet he held that it would be unfriendly to recognize the Confederacy. At least two of Earl Russell's colleagues in the government—the Right Hon. T. Milner Gibson and Sir George Cornewall Lewis—were openly hostile to the Union. Their political opponents in Great Britain, the Tories, led by Earl Derby and Disraeli, professed to be in favor of immediate recognition of the Confederacy, and whenever occasion offered pressed a resolution to that effect upon the ministry. Mr. Cobden made a powerful speech in April, 1863, in favor of the ministry's position in refusing to recognize the Confederacy and in adhering to their position of neutrality. Mr. Roebuck, a pronounced friend of the Confederacy in Parliament from the beginning of the war, moved, in June, an address in the House of Commons, praying that negotiations might be entered into by the great powers of Europe for the purpose of obtaining their co-operation in the recognition of the independence of the Confederate States. By the great powers was meant France, represented by the Emperor Louis Napoleon, who was ready to join England in such a measure. Mr. Gladstone objected to the motion, and Mr. John Bright made an eloquent speech against it, and Mr. Roebuck finally withdrew it. There was showing itself in Great Britain a more friendly feeling toward the United States among the masses and a considerable portion of the intelligent middle class, especially of the dissenting bodies. Henry Ward Beecher's addresses in England were attended by excellent results, and the speeches and essays of John Bright, Richard Cobden, John Stuart Mill, Professor Newman, Goldwin Smith, J. E. Cairnes, and others were very helpful in changing British sentiment. Jefferson Davis' denunciation of the British government and the resentment shown by John Mason on leaving England show the change effected. The sinking of the "Alabama" by the "Kearsarge," the escape of Semmes and part of his crew in an English yacht, and the ovation given them on their arrival in England, brought forth another effort to recognize the Confederacy. In spite of the pressure, however, the ministry maintained their position. In July, 1864, at the proroguing of Parliament, the Royal message con-

tained the following: "Her Majesty deeply laments that the civil war in North America has not been brought to a close. Her Majesty will continue to observe a strict neutrality between the belligerents, and would rejoice at a friendly reconciliation between the contending parties." A great fair or bazar was opened in Liverpool, declared to be for the purpose of buying food and clothing for Confederates in Union prisons, and £17,000 were raised. Application was made by Lord Wharncliffe for permission to have an accredited agent visit the prisons at the North and distribute the aid to the prisoners, but Secretary Seward promptly prohibited it, and Lord Wharncliffe's impertinence was checked. The tragic death of Mr. Lincoln and the collapse of the Confederacy terminated the strained relations between the United States and Great Britain, which more than once were of a very delicate and disordered character.

#### SEVENTY-FIFTH ILLINOIS INFANTRY.

Give a history of the Seventy-fifth Illinois Infantry. BLADEN, Neb.  
Illinois Infan-  
H. E. C.

*Answer.*—The Seventy-fifth Illinois Regiment was organized at Dixon, Ill., and mustered into service Sept. 2, 1862. It was sent southward Sept. 27 and joined the army of the Ohio in its movement against Bragg. Oct. 8 it had its baptism of fire in the bloody fight at Perryville, where it lost heavily. It was in the fights of Nolansville, Knob Gap, and was in the right wing at Stone River, losing two killed, twenty-five wounded, and twenty-one prisoners. The regiment was next with the army at Liberty Gap and Chickamauga; was at Chattanooga when the army was besieged at that place, and participated in the battle of Lookout Mountain. It was in camp most of the winter of 1863-4, and May 6 following started with Sherman on his march to Atlanta; was engaged in the battles of Dalton, Resaca, Marietta, Kenesaw, and other skirmishes until Atlanta was taken. From Atlanta the Seventy-fifth went to Pulaski, thence to Franklin, taking part in the battle at that place. Was also at the battle of Nashville, and after this went into quarters. It was mustered out at Nashville June 12, 1865, and was sent home for final discharge.

#### SOME ELECTION QUERIES.

WESTERVILLE, Neb.  
1. What was Buchanan's plurality over Fremont in Pennsylvania? 2. What was Fremont's plurality in New York? 3. What was the electoral vote in 1856? 4. Did any of the States formerly vote for President in October? F. D. M.

*Answer.*—1. Buchanan's plurality over Fremont in Pennsylvania at the Presidential election of 1860 was 83,200 votes; his majority over all candidates was 1,025. 2. In New York at the above election the vote for Fremont stood 276,007, that for Buchanan 195,878, for Fillmore 124,604. The Gerrit Smith electoral ticket also received 155 votes in the State. The plurality of Fremont over Buchanan was therefore 80,129 votes, that over Fillmore 151,403. 3. The electoral vote of 1856 was as follows: For Buchanan and Breckinridge, 174 votes from nineteen States; for Fremont and Dayton, 114 votes from eleven States; for Fillmore and Donelson, eight votes from one State (Maryland). 4. The Constitution provided that the day on which electors cast their votes "should be the

same in all the States," but left the day to be fixed by Congress. The Second Congress, therefore, by the act of March 1, 1792, fixed the day on which the electors should vote for President and Vice President as the first Wednesday in December, and the day on which the people should vote for the electors to be within a limit of thirty-four days preceding this date. The day for the choice of electors was not made uniform throughout the States until the act passed Jan. 23, 1845. While some of the States, no doubt, availed themselves of the full limit of this time, it is not probable that any held their electoral election as early as October, as even the last day of that month would only fall occasionally within the prescribed limit. A number of the States held their elections for Governor in October.

#### MAKING BLACK-BOARDS.

How can liquid slating be made for black-boards?  
RADNOR, Ill.  
TEACHER.

*Answer.*—The following directions for this work are given us by an experienced superintendent. "The first care must be to make the wall surface or boards to be blacked perfectly smooth. Fill all the holes and cracks with plaster of Paris mixed with water; mix but little at a time; press in and smooth down with a case knife. The cracks between shrunken boards may be filled in the same way. Afterward use sand-paper. The ingredients needed for slating are (1) liquid gum shellac, sometimes called shellac varnish; (2) lampblack or drop black. Gum shellac is cut in alcohol, and the liquid can be obtained of any druggist. Pour some shellac into an open dish, and stir in lampblack to make a heavy paint. With a clean brush spread on any kind of surface but glass. Put on a little and test it. If it is glossy and the chalk slips over it, reduce the mixture with alcohol. Alcohol can be bought of any druggist. If it rubs off let the druggist put in more gum to make the liquid thicker. One quart of the liquid and a 5 cent paper of lampblack are sufficient to slate all the black-boards in any country school with two coats.

#### BARBARA HECK.

Give an account of the life and death of Barbara Heck.  
CAVOUR, D. T.  
L. J. BARTLETT.

*Answer.*—Barbara Heck is known in church history as "the foundress of American Methodism." She was born in Ireland of German parents, who belonged to a settlement of German emigrants from the Rhine Palatinate to the Emerald Isle. These people soon came under the influence of Wesley and his preachers, and formed one of the strongest Methodist societies in Ireland. In 1760 Philip Embury, a Methodist preacher, with a number of these Germans, including Paul Heck and his wife Barbara, sailed for New York. Settling there, for some reason they gave up their Wesleyan meetings, but in 1766 Mrs. Heck had become so impressed with the wickedness of this falling off that she felt called upon to arouse her friends from their lethargy. Her earnest words so impressed Embury that he again undertook his work as a preacher. She rested not until she had gathered a little congregation to meet at his house, and by their joint exertions the famous "Old John Street Chapel," the first Methodist church in America,

was built. When Wesley's preachers came to take charge of the John street church Mrs. Heck removed with her family and that of Embury to Northern New York, where they founded Methodist societies. They finally settled in Upper Canada, and became the founders of their denomination in that locality. Barbara Heck died there, at the residence of her son, Samuel Heck, near Augusta, in 1804, at the age of 70 years.

#### TIN MINES OF THE OLD AND NEW WORLDS.

Where is tin principally found? Have the tin deposits, said to exist in Dakota, yet been worked, and are they likely to yield well?  
LYONS, Mich.  
R. MERTON.

*Answer.*—Native metallic tin is one of the rarest of minerals. It is said to be found in Siberia, and in very small quantities in Bolivia and Pennsylvania. It is also found in combination with sulphur—tin pyrites, but the tin ore commercially utilized is the oxide of tin. It is known as cassiterite, tin stone, or tin ore; it occurs in veins, when it is called mine tin, and also as rolled pebbles in alluvial deposits, known as stream tin. These ores occur associated with iron, copper, zinc, lead, and other minerals. The two great deposits of tin in the world are in Cornwall, Eng., and in Malaysia. The Cornwall mines have controlled the market for centuries, but are now running short, and the Malaysia mines, which have only been worked a comparatively short time, now govern the world's supply. In the Malaysian, or East Indian mines, are included those of the islands of Banca and Billiton, near Sumatra. There are large tin-smelting works on the island of Ceylon, and it has been said of late years that from the port of Singapore has been shipped three-fourths of the amount used in the world, which, since the development of the canning industry, is no small amount. Tin is also mined to some extent in Brittany, Finland, Spain, Mexico, Bolivia, and New South Wales. Mines in Australia have yielded of late years a considerable quantity of tin ore, and stream tin is found in Brittany and Spain. Tin occurs in combination with cryolite in Greenland and with porphyry in California and Idaho. Other places in the United States have afforded tin in small quantities—Paris and Hebron, Me.; Chesterfield and Goshen, Mass.; Lynn and Jackson, N. H.; Booneville, Ind., and some localities in Missouri. The metal has also been detected in the magnetic iron ore of the highlands of New York and New Jersey, and in some of the auriferous ores of Virginia. But by far the most important deposit of tin on the Western Continent is that recently discovered in the Black Hills. Concerning the condition and prospects of the Dakota tin mines, we quote the statements made by A. J. Simmons, ex-Mayor of Rapid City, Dak., who says: "The mines are equal to those of Cornwall, and if they were in operation the present corner in tin controlled by the French syndicate would be impossible. The mines are up in the Harney Peak Hills, which are a part of the Black Hills, and you strike them first about twenty miles north of Rapid City, on the Black Hills branch of the Northwestern Road. No one has ever put in the money to operate the mines properly. There were no concentrating apparatus, no smelting far-



naces, and no mining machinery to speak of until recently. The mines are now going to be worked, and the tin will soon be on the market. An English syndicate has taken hold of the business. The Harney Peak Mining & Smelting Company, with \$10,000,000 stock, has been organized, and work has been begun. The company has bought 300 of the miners' claims, about 3,100 acres, and 1,000 acres of placer claims. Over 100 men are now employed on the works. The ore will be concentrated to about 60 per cent tin at the mines. The smelting-works will probably be erected at Rapid City."

#### MAXWELL LAND GRANT CASE.

HOMER, Ohio.

Tell something about the Maxwell land grant case. Where was the land situated, and when was it granted?

M. H. ALDEN.

*Answer.*—The land involved in this famous case is mainly in New Mexico. In 1802 Charles Beaubien and Gaudaloupe Miranda, pioneers in New Mexico, which was then a part of Mexico, received from Spain, through the Mexican Viceroy, the grant of a large tract of land, on condition that it should be settled with French-Canadian immigrants. This condition was never fulfilled, but the grant was never declared forfeited, and was regarded as still valid when the territory passed into the hands of the United States at the close of the Mexican war. By the terms of the treaty of Guadalupe-Hidalgo, our Government had bound itself to recognize the validity of all Mexican land grants. Miranda had sold out his share of the tract to Beaubien, and the daughter of the latter married Lucien B. Maxwell, a pioneer adventurer of the far West and a great friend of Kit Carson. Maxwell thus inherited the whole grant, but, becoming badly involved in debt, he gave it up to his creditors. It was then bought by a syndicate, in which some public men were interested. The grant contains 1,714,764 acres, part of which had been surveyed, and all of it was again surveyed under the direction of the syndicate. It was charged, however, that the syndicate had secured the land by fraud, and had condoned, if not instigated, many errors in the survey of the land. It was asserted that by fraud or error in surveying the land 265,000 acres had been added to the original grant. The case was taken into court some years ago, and was there contested strongly. The decision of the United States Circuit Court being adverse, the syndicate appealed to the Supreme Court. This court decided the case by an opinion delivered in April, 1887, which declared the grant to be valid, and that there was not sufficient evidence to invalidate the surveys. Much of the land which by this decision was secured to the syndicate has been long regarded as government land, and some 25,000 persons have settled upon it. The land of the grant is included in Southern Colorado and Northern New Mexico.

#### THE MANCHESTER SHIP CANAL.

MEADE, Ohio.

Give us some information concerning the projected ship canal from the sea to Manchester, England? Has work been begun on it, and when will it be completed?

READERS.

*Answer.*—The scheme of this canal has been in prospect for some years. It was first laid before the House of Commons in the form of a bill in 1883. The Commons passed the bill, but in the

House of Lords it was lost. The next year, in different form, it was accepted by the Upper House and rejected by the lower. In 1885 the bill passed both houses, but the next year the company had to again appeal to Parliament for leave to pay interest on loans out of the capital during the progress of the work. Finally in July, 1886, the company's prospectus was issued, but the sales of stock were so slight that the offer was withdrawn, and the scheme apparently given up. However, the great commercial advantages hoped for from the waterway kept up interest in it, and by private sales the entire capital was at last subscribed. It is now announced that the work will be begun early in 1888, and that the canal will probably be in operation by the end of 1891. This canal is to give a waterway for large vessels from the mouth of the Mersey—near Runcorn, above Liverpool—to Manchester, a distance of twenty-one miles, the route running partly in the beds of the rivers Mersey and Irwell. Three locks are to be used, and in order that the sea-going vessels may have free way to Manchester, no less than five bridges are to be removed by diverting the lines, and a canal viaduct is to be disposed of in the same way. The probable cost of the work is estimated at about \$35,000,000.

#### CYPRUS.

TOLONO, Ill.

Describe the Island of Cyprus, and give its area and population.

QUESTER.

*Answer.*—Cyprus is an island in the Levant, forty miles from the coast of Asia Minor. It has an area of 3,584 square miles and a population of 186,173. The island is mountainous, its highest peak being 6,590 feet high. The lowlands are fertile and well watered, but the streams are all small. The climate is very mild and generally healthy. The chief products of the island are cotton, wine, salt, wheat, barley, sponges, and raisins. Sheep are also raised considerably, and the silk-worm is cultivated to an important extent. The island has also much mineral wealth, copper, lead, building stone, and salt being exported. The island has been a British colony since 1878, but pays an annual subsidy to the Sultan of Turkey.

#### HISTORY OF SAN FRANCISCO.

NEWTON, Kan.

Give a brief sketch of the first settlement of the city of San Francisco, Cal., and describe the harbor of the "Golden Gate."

READER.

*Answer.*—San Francisco bay was discovered Nov. 2, 1769, by an expedition headed by Captain Portola and Friar Juan Crespi. In August of the year 1775 a vessel called the San Carlos, commanded by Lieutenant Ayala, passed through what is now called the Golden Gate. This is supposed to be the first white man's vessel that cast anchor in the bay of San Francisco. This harbor and bay, one of the finest in the world, is a beautiful sheet of water about forty-five miles in length and eight miles in average width, affording safe anchorage at all times. Its entrance, the famous Golden Gate, is a strait about four miles in length and two miles in average width. The depth of water is sufficient for the largest vessel or craft to enter with ease and safety. The first permanent settlement of white men on the shores of this bay was made in June, 1776, by an expedition from Monterey under Friars Francisco Palou and Benito

Cambon, accompanied by several settlers with their families and a detachment of soldiers under the command of Don Jose Moraga. About this time a few adobe buildings were erected near the shores of the bay, and the settlement named Yerba Buena. On the 30th of January, 1847, an ordinance was issued by the Alcaldé directing that the name of the town be changed from Yerba Buena to San Francisco, and in 1848 the first discovery of gold was made in the vicinity, at which time there were about 500 residents. From that period San Francisco began to attract the attention of the civilized world. This was the beginning of an era of prosperity for the State, which resulted in the building up of the important city of San Francisco.

#### FRANZ LISZT.

SANTA BARBARA, Cal.  
Give a brief sketch of the life of Franz Liszt.  
AMELIA.

*Answer.*—Franz Liszt was born in Hungary in 1811. He early displayed great musical talent, and was instructed by the finest masters of the art. At the age of 12 he performed in concerts in Vienna and Munich, attracting great attention. At the age of 20 he first appeared in Paris, where his performance made a wonderful sensation, and in England, where he next performed, he was received with equal enthusiasm. In 1825 he produced an opera which was not very successful. In 1827 he lost his father, an event which produced much impression upon him, and about the same time he formed an unfortunate attachment to a lady of rank, who forsook her husband, children and friends to live with him. For several years Liszt lived with this woman in almost absolute seclusion. About 1831 he was aroused from the somber mood into which he had fallen by hearing Paganini perform on the violin, and full of the determination to become the Paganini of the piano-forte he resumed his practice on that instrument. In 1835, hearing of the successes of Thalberg in Paris, he went to that city, where he was received with an éclat which his long absence had not lessened. He was acknowledged as superior to Thalberg, and ever since then he has been regarded as the leading master of the art of piano-playing. From 1838 to 1847 his musical career was a succession of triumphs, and then he was made conductor of the court concerts and opera at Weimar. In this position he made Weimar one of the chief musical centers of Europe, and helped to introduce to notice several of the rising young composers of Germany, notably Richard Wagner. In 1861 Liszt went to Rome and became a great favorite with the Pope. In 1865 he took ecclesiastical orders, and after that time was known as the Abbe Liszt, and devoted himself principally to the composition of church music. In 1871 he left Rome and went to live at Pesh, where he spent the remainder of his life. He died July 31, 1886.

#### PAYING MONEY OUT OF THE TREASURY.

ANCONA, WIS.  
How is money paid out of the Treasury?  
INQUIRER.

*Answer.*—Money cannot be taken out of the United States Treasury, even when due to employes or otherwise most sorely required, without a Congressional appropriation. When such appropriation has been made the money may be paid

out, but in two ways only—First, by warrants drawn by the Secretary of the Treasury upon the Treasurer, in favor of disbursing officers, who are charged with amounts drawn and must account for it; second, by similar warrants drawn in favor of outside parties, in settlement of claims against the government.

#### THE MOTIVE FORCE OF THE WORLD.

CHICAGO.  
I have seen an estimate of the steam engine-power of the world, but can not recall its total; can Our Curiosity Shop give this power by countries?  
MARTIN NUSE.

*Answer.*—The most complete figures that we have ever seen on this subject, are some given a few months since by the Bureau of Statistics of Berlin. It declares that four-fifths of the engines now at work in the world have been constructed during the last twenty-five years. Of these, France owns 49,590 stationary or locomotive boilers, 7,000 locomotives, and 1,850 boats' boilers; Germany has 59,000 boilers, 10,000 locomotives, and 1,700 ships' boilers; Austria has 12,000 boilers, and 2,800 locomotives. The force equivalent to the working steam engines represents: In the United States, 7,500,000 horse power; in England, 7,000,000 horse power; in Germany, 4,500,000; in France, 3,000,000; and in Austria, 1,500,000. In these figures the motive power of the locomotives is not included, whose number in all the world amounts to 105,000, representing a total of 3,000,000 horse power. Adding this amount to the other powers, we obtain the total of 46,000,000 horse power. A steam horse power is equal to three actual horses' power; and a living horse is equal to seven men. The steam engines of the world represent, therefore, approximately the work of 1,000,000,000 men, or more than double the working population of the earth, whose total population amounts to 1,455,923,000 inhabitants. Steam has accordingly trebled man's working power, enabling him to economize his physical strength while attending to his intellectual development.

#### THE ENGLISH LANGUAGE.

CHICAGO.  
Give some statistics showing to what extent the English language is spoken compared to other tongues. What proportion of newspapers are published in this language?  
READER.

*Answer.*—The English language is to-day unquestionably the most prominent language on the globe. It is the mother tongue, or the common speech, of more than 100,000,000 of people in the United States, and in Great Britain and her dependencies. This can not be said of any other European tongue. In the densely populated provinces of China, we may find a single tongue used by a greater number but nowhere else, and there is no other speech so widely known or so generally used in commerce as this. Indeed, English is the commercial language of the globe, in use everywhere that the restless citizen of Great Britain or the United States has found his way, which includes every zone, section, political or geographical division of the round earth. The population of the United States in 1880 was 50,000,000; it is now probably not less than 58,000,000. Great Britain has a home population of some thirty-six and a half millions, but the British Empire with its colonies and dependencies has a population of more than 200,000,000, not including the millions



in India, under its control. These figures show the wide spread influence of the English tongue. To this must be added the fact that this tongue is especially the vehicle of current news and literature. There were in 1880, 10,625 newspapers and magazines printed in the English tongue in America alone. The "Newspaper Directory of the World" issued in 1882, gave the whole number of periodicals in the world at 34,274, of which 16,500 were printed in the English language.

HENRY GEORGE.

GALENA, ILL.

Give a brief biographical sketch of Henry George.

THIMS.

*Answer.*—Henry George was born in Philadelphia Sept. 2, 1839. After receiving an ordinary education he entered a printing office when about 14 years old and learned to set type. About a year later he entered a mercantile house as a clerk, but soon tired of that life also, and at the age of 16 shipped as a sailor. After one voyage, however, he returned to the composing-stick and worked as a printer in Philadelphia till he was 20 years old, when he went to California. On reaching San Francisco he joined a prospecting party for British Columbia, but, not finding the fortune he sought, he returned to San Francisco and settled down to hard work as a printer. He soon left the case, however, for work as a reporter, was an editor for a time, then started a journal of his own, which had a brief term of existence. He obtained a city office in 1877, and while in this position wrote "Progress and Poverty." He returned to New York to publish the work. He went to Ireland as a newspaper correspondent in 1881. In 1883 he made a lecture tour through England, and in 1885 made a similar tour through Scotland. He has published several pamphlets, and has contributed extensively to newspapers and magazines. In 1886 he was candidate for Mayor of New York, but was defeated.

#### MILITARY SERVICE IN EUROPEAN COUNTRIES.

HAMILTON, ILL.

Give length of military service and mode of raising the army in all the principal countries of Europe, also size of army on peace and war footing.

EDW. J. HALL.

*Answer.*—In Austro-Hungary military service is obligatory on all men who have completed their 20th year, the only exceptions being in connection with certain family conditions and physical or mental incapacity. No substitution is allowed. The army is divided into four categories—the active army, the reserve, the Landwehr, and, by a law passed in 1886, the Landsturm. The active army and the reserve are common to the whole empire; the other divisions are under control of the Ministers of National Defense of Austria and Hungary respectively. However, all orders concerning the movement of troops must emanate from the Emperor-King. In principle, every qualified man must pass three years with the colors, four years in the reserve, five years in the Landwehr, and twelve in the Landsturm. Men who have served in the regular army will be liable for service in the Landsturm as officers or non-commissioned officers till the age of 60, while in time of war men may be taken from the Landsturm to fill up gaps in the Landwehr. The Austro-Hungarian army on the peace footing

is 284,496 men and 17,857 officers, and on the war footing is 1,071,034 men and 32,785 officers.

In Belgium the standing army is formed by conscription, to which every able man who has completed his 19th year is liable, and also by voluntary enlistment. Substitution is permitted. The legal period of service is eight years, of which, however, two-thirds are allowed, as a rule, on furlough. The peace strength of the army is 47,290 officers and men; its war strength 103,860.

The army of Denmark consists of all the able-bodied young men of the kingdom who have reached the age of 22 years. They are liable to service for eight years in the regular army and its reserve, and for eight years more in the extra reserve. The different divisions of the army are obliged to give from fifteen to twenty months to the work of drill, and besides every corps has to drill each year from thirty to forty-five days. The Danish army on a peace footing is 35,727. Its total war strength, including reserve, is 50,522 men and officers. This is exclusive of an extra reserve of 14,000 officers and men, only called out in emergencies.

The laws of France enact universal liability to arms. Substitution and enlistment for money are forbidden, and it is ordered that "every Frenchman not declared unfit for military service may be called up, from the age of 20 to that of 40 years, to enter the active army or the reserves." The active army is composed of all the young men, not otherwise exempted, who have reached the age of 20, and the reserve of those who have passed through the active army. The standing army has a total of 523,693 officers and men; and taking into account the various classes of reserves, France has a war force of about 2,500,000 men at her disposal, and still further including classes of able-bodied men whose services have been dispensed with, as ecclesiastics, teachers, etc., but who are liable to serve under recent laws, the total number amounts to 3,750,000.

In Germany, as in France, every citizen is liable to service, and no substitution is allowed. Every German capable of bearing arms has to be in the standing army for seven years, as a rule from his 20th to his 28th year. Of this term, three years must be spent in active service and the remaining four in the army of reserve. After quitting the army of reserve he has to form part of the Landwehr for another five years. Further, all men capable of bearing arms who are not in the line, the reserve, or the Landwehr, must belong to the Landsturm, which is divided into two classes, the first containing all 42 years old and under, the second including all the others not already in the army. By the military bill passed in March, 1887, the peace effective of the army is 468,409 men and 18,143 officers. The war strength of the army, however, is more than treble this number, being raised to 35,427 officers and 1,500,000 men. The railway and telegraph service also numbers 1,238 officers and 7,000 men. If to these numbers we add the Landsturm and the one-year volunteers, the total war strength of trained soldiers would be about 2,650,000, while with the addition of those not trained on account of not being up to the standard at the

time of drilling, the total available force of all classes would be 5,670,000.

In Great Britain no term of military service exists, the officers of the army being educated as in this country, and the rank and file recruited by voluntary enlistment. The maintenance of a standing army, in time of peace, without the consent of Parliament, was prohibited by the bill of rights of 1689, and from that time till now the numbers of troops needed for the security of the empire as well as the cost of their maintenance have been fixed by the annual vote of the House of Commons. The regular army in 1887 was made up of 7,530 commissioned officers, 20,194 non-commissioned officers, and 124,139 rank and file.

Universal liability to arms forms the basis of the military organization of Italy. Every year 80,000 young men of the age of 21 are drawn for the standing army, while the remainder of that age are entered in a second category and serve six months with the colors. For the first category the time of service in the standing army is three years in the infantry and four years in the cavalry. In the army of reserve the infantry must serve nine years, the cavalry have only five. The second category, after their six months' service, are passed to the reserve and mobile militia. After completion of time in this division, both categories are drafted into the territorial militia, where they remain till their 39th year. Into this last body also are drafted the conscripts whose services in the active army have been dispensed with. The different divisions of the Italian army are the permanent army, which is the standing force on a peace footing, and numbers 892,687 officers and men. To this in time of war is added the mobile militia, numbering 365,717, and, in need, the territorial militia may be called out, which contains 1,128,928, making a grand total of 2,387,332 men.

The army of the Netherlands, or Holland, is formed partly by conscription and partly by enlistment, the volunteers forming the stock, but not the majority, of the troops. The men, drawn by conscription at the age of 20, have to serve, nominally, five years, but really only for twelve months, as for the four years following they meet for practice only six weeks annually. Besides the regular army there exists a militia, divided into two classes, the active militia containing all men from 25 to 34 years of age, and the resting militia, all from 35 to 55. Besides these there is the land-sturm, including all men between the ages of 19 and 55, not already enrolled in the army. The regular army of the Netherlands amounts to 53,501 officers and men. The addition of the reserve forces mentioned would raise it to nearly 300,000 men.

In Portugal, also, the army is formed partly by conscription and partly by voluntary enlistment. All young men 21 years old, with certain exceptions, are obliged to serve. The strength of the army is fixed by the Cortes. It is now established at 8,687 officers and men in time of peace and 125,957 in war.

By the present military law in Russia, all young men of 21 who are not physically incapacitated are liable to the annual conscription, and immunity from service by the purchase of substi-

tutes is not allowed. The term of military service is fifteen years, six in the active army and nine in the reserve. The men of the active force not needed to keep the army up to its full complement are allowed to go on furlough. The reserve are called together for short periods of drill, but otherwise are not called out except in case of war. All able-bodied men who have not been drawn into the army can, in case of war, be called out to serve as a militia. The total peace footing of officers and men in the Russian army is 770,000, and the war footing 2,200,000; and if the militia, which is untrained and levied only in time of war, is added, the total available war forces of the country amount to about 3,200,000.

In Spain the army is modeled on that of France. All males over 20 years of age are liable to be drawn for the permanent army, in which they have to serve three years; they then pass for three years into the active reserve, and then for six years into the second reserve. Exemption may be purchased. The strength of the permanent army is now placed at 107,045 officers and men. In 1833 laws were passed providing special facilities for regimental organization, and it is believed that in case of war a force of 400,000 men might be raised.

The Swedish army is composed of (1) enlisted troops, (2) a militia force raised and paid by the land owners, and conscription troops drawn by annual levy from the male population between the ages of 20 and 32 years. The two former divisions form the line, which have a total of 39,946 soldiers, and the third aggregates 116,909. There are also volunteers, in time of peace individually free, but in time of war these may be compelled to place themselves under the command of the military authorities. However, these number less than 15,000 men. In Norway the troops are raised mainly by conscription, and to a small extent by enlistment. All young men over 22 years of age are liable to the conscription. The nominal term of service is thirteen years, of which five years are spent in the line, four years in the Landvaern, and four years in the Landstorm, but this service implies in time of peace only a limited annual term of military practice. The Landvaern is only liable to service within the frontier of the Kingdom. Every man capable of bearing arms and not already enlisted is liable to service in time of war in the reserve of the Landstorm, from the 18th to the 50th year of his age. The troops of the line in the Norwegian army, with its reserves, now number about 40,000 men, with 800 officers. The number actually under arms, however, is but small, and this number, even in time of war, can never exceed 18,000 men without the consent of the Storting.

In Turke, which, however, is hardly a European state, but seems to be thus classed because of its influence on European politics, military service is compulsory on all able-bodied Mahometans who have reached the age of 18 years. Substitution is allowed on the payment of about \$250, and sole supporters of families are exempt. Non-Mahometans are not liable to military service, but have to pay an exemption tax, which is levied on males of all ages, and amounts to about \$1.50 annually. The period of military service is twenty years. The permanent army has



a total numerical force of 9,810 officers and 149,312 men. The war strength has been hitherto placed at 560,000 men, but when laws passed in 1886 for the increase of the army have been carried out the war force will be nearly doubled.

As to the smaller European States, Switzerland, Servia, Roumania and Greece, the first-named is forbidden by its fundamental law to maintain a standing army, but the constitution of the Republic declares that "every Swiss is liable to serve in the defence of his country," and instruction in arms is given in the schools. All men from the age of 20 to 32 are reckoned as belonging to the federal army, and the militia comprises all from the 33d to the close of the 44th year. These two divisions have a total of 201,225 men. All are called together at stated times for drill in the use of arms, and the expenses of this military training is borne partly by the cantons and partly by the confederate government. In Greece all able-bodied males over 21 years of age are liable for a service of nineteen years: in Roumania all between the ages of 21 to 46 are enrolled for eight years; in Servia all over 20 years must serve first for two years in the active army, then for six years in the reserve of the standing army, then for nine years they belong to reserves of the second class: after this, till their 50th year, all are enrolled in the third class of reserves, which, however, are only called out in case of necessity. After service in the active army, only a few days' manual drill is required of any of these classes in time of peace. The Grecian army on a peace footing comprises 24,076 men; on a war footing, with militia, it numbers 146,000 men. The Roumanian army in peace musters 19,732 men; with the reserves it may be increased to about 123,000. The strength of the standing Servian army is about 18,000 men, but part of the reserves are always kept on an active footing, and the entire army numbers 210,000 men. Little tributary Bulgaria, for self-protection, also makes military service obligatory, and sustains an army of 25,000 men in time of peace, and 100,000 in war.

#### THE CITY OF CANTON, CHINA.

St. PAULS, Ohio.  
Give a sketch of the city of Canton, China, with something of its history.  
S. T. GAIN.

*Answer.*—Canton, or, more correctly, Quang-choo-fo, which means "pearl city of commerce," is a large city of the province of Quang-tung, China. It is on the bank of the Pearl River, about eighty miles from the sea. It has a population of about 1,500,000. The part of the city enclosed by walls is about six miles in circumference, and has a partition wall running east and west dividing it into two unequal parts. The northern and larger division is called the old, the southern the new city. Taking the suburbs also, the city has a circuit of ten miles. The walls of the city are of brick, on a foundation of sandstone and granite, and have an average height of twenty-five feet. On the north side the wall rises to include a hill, and on the other three sides is surrounded by a ditch, which is filled with water at high tide. There are four gates in the partition wall of the city, and twelve gates in the outer wall. There are about 300 streets, all straight and narrow, most of them paved with granite and kept much cleaner than

those of most oriental cities. The houses are generally built of dark brown brick, one or two stories high, and open in front, closed only by suspended bamboo screens. The windows are small, and closed generally with paper or mica, glass being seldom seen; the roofs are made of tiles. The northern, or old part of the city, is generally inhabited by the Tartar population, the other part by the Chinese, and about four miles from the city is anchored the "boat-town," consisting of 40,000 covered river boats, in which live a people called Tankia, some 300,000 in number; a strange, amphibious pariah race, who subsist by fishing, carrying passengers, and raising of ducks and puppies for the city market. Canton is divided into quarters for different kinds of business, each trade and occupation being confined to a quarter of its own. The streets of the city are so narrow that no carriages or wagons are used, and all goods are conveyed from place to place on the shoulders of coolies, who also carry passengers in sedan chairs. There are about 125 Buddhist temples, or Joss-houses in the city, and there are a number of public buildings, such as pavilions, halls, etc. Few of these have any pretensions to architectural elegance, but some of the pagodas have curious features. Thus, one called the Kwang-tah, which is 1,000 years old, rises in an angular, tapering tower to a height of 160 feet; another, which is several centuries older, is an octagonal, nine-storied edifice, 170 feet high. The Temple of the 500 gods, or "flowery forest," is remarkable for the great number of colossal wooden figures of all colors, with grotesque and hideous faces, ranged around the walls. The climate of Canton is mild and healthy, the temperature ranging from 75 to 90 degrees in midsummer, and 50 to 30 degrees during the coldest part of winter. There are about 200 foreign residents in Canton, mostly English and American. These mostly reside in a quarter given up to them in the western suburbs of the city, about twenty-four acres in extent, separated both from the city and the river by the walls. Manufacturing industries are active in Canton. The weaving of silks and other fine stuffs, the manufacture of porcelain and curious toys of many kinds, ornaments and articles of gold, silver, and ivory, these employ thousands of hands, but there are no large manufacturing establishments, the craftsmen working singly at home or in small companies. The trade of the city is enormous, since besides its outside commerce, Canton is the only large market for a territory of 150,000 square miles, and a population of some 60,000,000. According to Chinese authorities, Canton has existed for forty centuries, and there is evidence that a city existed on its site at least 1,200 years before the Christian era. The first intercourse of Europeans with this city was in 1517, when the King of Portugal obtained permission to establish a trading post at Macao. The English made several attempts during the following century to open trade with the city, but did not succeed, owing to the jealousy of the Portuguese, until 1685. The East India Company held a monopoly of the English trade at this port until 1834, and in spite of the unwillingness of the Chinese to hold intercourse, contributed largely to the city's

commerce. In 1841 the city was taken by the British during the opium war, and compelled to pay a ransom of \$30,000,000, and by the treaty which closed the war the port was fully opened, with other ports, to the British. Again, in 1857, the British took possession of the city, but yielded it on the payment of an indemnity. A curious fact may be mentioned here concerning the name of the forts which command the City of Canton. They are on the heights bordering a narrow part of the river below the city. Canton is surrounded on the north and west by a range of steep hills, these hills terminating in abrupt escarpments along the course of the river. By this bold shore the river is so compressed at one point as to form a narrow pass, which the Chinese call Hu-num or "Tiger's Mouth," because of danger to vessels in passing it. The early Portuguese traders translated this name into their own tongue as Boca Tigre, whence the point of land came to be called the Boque, or later the Bogue, by English sailors, and by this phrase is now generally known to Europeans and Americans.

#### VORTIGERN AND ROWENA.

Give the story by Vortigern and Rowena of early Britain.

GARDE PT., Ill.  
Rowena of early  
M. S. SHEARER.

*Answer.*—When the Roman legions were removed from Britain, in the year 426, that country was left a prey to the barbarous tribes of the Picts, inhabiting the country north of the river Clyde, and the Scots from the adjacent island of Erin. The Britons were quite unable to cope with enemies so warlike and so strong. A most pathetic picture of the nation's suffering is given in a sorrowful letter called the "Groans of the Britons," which was sent to Rome twenty years after the legions had departed, in which they said: "The barbarians drive us to the sea, and the sea drives us back to the barbarians; so that between the two we must be either slaughtered or drowned." But the Romans were at this time themselves so beset with foes that they could send no assistance to the Britons. And soon after the people of Britain had to cope with a new foe. This was the bands of seapirates who sailed up and down the Eastern coast, and, landing at unguarded places, pillaged and plundered as they would. It seemed to have first occurred to Vortigern, a prince of one of the tribes in Southern Britain, that it would be a good plan to make allies of one class of these assailants against the other. He therefore applied to the Saxons, or, more correctly, to the Jutes—for the first of the Teutonic tribes to settle in England were men from the peninsula of Jutland—for help in driving out the Picts. A force came over, under two brothers, Hengist and Horsa, and with their assistance the Northern invaders were defeated and driven back to the shelter of their rugged hills. Vortigern was greatly pleased at the result, and wished his new allies to remain in Britain. A great feast was accordingly given to celebrate the victory over the Picts, at which were present all the men of rank and power among the Britons, as well as the leaders of their allies, all in the gorgeous attire that barbarous people so much delight in. In a poem describing this feast, by the way, an English poet

perpetrates one of those droll blunders commonly ranked as "Irish bulls" in the couplet—

"A painted vest Prince Vortigern had on,  
Which from a naked Pict his grandsire won."

And when the feasters had well eaten, and the tankards of wine were brought on, there appeared before the dazzled eyes of Vortigern a vision of beauty, fair as the angels of Paradise. It was Rowena, the golden-haired daughter of Hengist, who filled a golden goblet with wine and touched it to her lips, saying, "Fair King, thy health!" Then, kneeling before him, she presented the cup. Vortigern fell madly in love with her at once, and desired to make her his queen. Hengist gave his consent, for undoubtedly this was just what he desired, and Vortigern gave to him, in return for his friendship and assistance, the Island of Thanet, separated at that time by a broad estuary from the rest of Kent. But more and more of the sea pirates came over and encroached upon the Kentish shores and plundered the people. Vortigern was so fond of Rowena that he acceded to every request of hers in behalf of her people, and not only did not drive out the plunderers, but gave them further concessions. The people then arose in anger and deposed Vortigern and made Vortimer, his son by a former wife, King in his stead. The young King met Hengist at the head of an army, defeated him in three great battles, and compelled him to retire for some years from Britain. Rowena having contrived to poison Vortimer, Vortigern again ascended the throne and recalled his father-in-law, Hengist. The Britons, however, refused to reinstate the foreigners in their possession, but after some delay, agreed to hold a conference of both Britons and Jutes to settle points in dispute. Three hundred British chiefs, therefore, met, at Stonehenge, Hengist and the other Jutish leaders. The discussion was warm, for neither side was willing to give way to the other, but suddenly in its midst, Hengist shouted to his countrymen "Take your knives!" and every Jute, at the word, drew his dagger and stabbed a British chief to the heart. Vortigern alone was spared, but as a ransom for his life the three provinces of Essex, Sussex and Middlesex were demanded. They were granted and Hengist now brought over more followers and settled there. This was the first permanent settlement of the German invaders in Britain. Nothing is known of the subsequent life of Vortigern and Rowena.

#### HISTORY OF KANE COUNTY, ILLINOIS.

NORTH BROOKFIELD, MASS.  
Can Our Curiosity Shop give a brief history of Kane County, Illinois? WILLIAM M. GARDNER.

*Answer.*—We are indebted to Mr. James Shaw, City Clerk and librarian of the public library, of Aurora, Ill., for the following succinct history: Kane County, Illinois, occupies a territory of five hundred and forty square miles. It originally comprised thirty-six townships, eighteen of which are now embraced in DeKalb County and three in Kendall County. One of the others has been divided since the township organization, leaving sixteen in the present area. These sixteen townships are named as follows: Aurora, Sugar Grove, Big Rock, Geneva, Batavia, Blackberry, Kanerville, St. Charles, Compton, Virgil, Elgin, Plato, Burling-



ton, Dundee, Rutland and Hampshire. The first settlements of white people were made in the county about 1833, the first settlers being chiefly from Virginia, Kentucky, Southern Indiana and Illinois. In 1834 the tide of immigration set in from New York and New England. These settlers comprised a class of men who established the reputation of the county for good order, organized its legal and political existence, and laid the foundation for its splendid system of manufactures. These, again, were followed by immigrants from foreign lands, and from about 1840 the population increased with great rapidity. Its principal cities now are Aurora, population about 21,000, and Elgin, population about 15,000. The county is the seat of some of the largest manufacturing interests in the West. At Elgin is located one of the two largest watch factories in the world; also, one of the most extensive milk condensing factories. At Aurora are located the main construction and repair shops of the Chicago, Burlington and Quincy Railroad Company, employing about 2,000 men; also, cotton mill, watch factory, road-cart factory, corset factory, silver-plate factory, etc. At Batavia is one of the largest wagon factories in the West, and there are also turned out in that little town wind-mills that are shipped to all parts of the world, and immense quantities of pumps, hollow-ware, printing paper, etc. The county contains about 150 miles of railroad, the chief lines being the Chicago, Burlington and Quincy, the Chicago and Northwestern, the Chicago, Milwaukee and St. Paul, and the Minnesota and Northern. The population of the county in 1880 was 44,939. It is now probably not less than 60,000.

#### MISSOURI FROM 1861 to 1863.

Give a history of Missouri from the time Claiborne Jackson left Jefferson City up to the time of Governor McClurg's administration, including the various conventions that were held, and the dispersion of the Legislature, etc. M. E. K.

*Answer.*—Governor Claiborne F. Jackson, it will be remembered, advocated the calling of a State convention to ascertain the will of the people on the question of secession, and this convention, though it enacted no measure of importance, expressed itself very strongly in favor of the Union. St. Louis being regarded as an important military point, United States troops were assembled there, and some disturbances occurred between the soldiers and the people that sympathized with the South. The Governor, who had objected strongly to the advent of the Federal troops as a violation of the rights of the States, June 12, 1861, issued a proclamation calling into active service 50,000 of the State militia to repel the invasion of the State. He also denounced severely the action of the Government as "unconstitutional." On the following day the Governor and State officials left Jefferson City—having heard that several battalions of Federal troops were about to march upon that place—and took up their quarters at Booneville. Here he summoned the State troops to his support. General Lyon immediately marched upon this point, and defeated the State troops. General Sterling Price had raised a large force in the southwestern part of the State, and there were frequent encounters between the State troops and

the Federal soldiery—including the important battle of Wilson's Creek, at which the heroic Lyon was killed Aug. 10. The State convention met July 22 at Jefferson City. It declared the offices of Governor, Lieutenant Governor, and Secretary of State vacant, and provided that these offices should be filled by the convention, the officers so appointed to hold their seats until August, 1862, at which time it was recommended that a special election be held by the people. The convention then elected Hamilton R. Gamble Provisional Governor, Willard P. Hall Lieutenant Governor, and Mordecai Oliver as Secretary of State. These officers were immediately inaugurated. Governor Gamble issued a proclamation to the people, Aug. 3, demanding that the Confederate troops should leave the State, and calling upon all good citizens to return to their allegiance to the Federal Government. Governor Jackson, on the other hand, two days later, issued a provisional declaration of the independence of the State and her separation from the Union. Meanwhile the struggle between the two armies went on. General Fremont was put in command of the Western Department, with headquarters at St. Louis, July 26, and one of his first acts was to issue a proclamation declaring the State under martial law; the property of all persons who had taken up arms against the United States confiscated to the Government, and their slaves, if they had any, to be set free. He was forced, however, by order of President Lincoln, to withdraw the provision for the liberation of slaves, and, for certain reasons, he was removed early in November from his command, and General Halleck was appointed in his place. The State convention again assembled in St. Louis, Oct. 11, 1861. It made arrangements for a State election in November, 1862, provided for the continuance of the State officers until that time, and declared that all persons taking the oath of allegiance to the State government within a stated time should be exempt from arrest or punishment for taking up arms, and directed the Governor to request the President of the United States to exercise like leniency. On Nov. 1 the former members of the Legislature, who sympathized with the South, met at Neosho and ratified an arrangement which had been made between certain commissioners of the State and the Confederate government at Richmond, by which Missouri was declared a member of the Confederacy. This action, however, had little effect upon the destiny of the State. During the year 1861 there had been not less than sixty battles and skirmishes between the Federal and Confederate forces on Missouri soil, and the year 1862 opened with promise of hostilities on even a larger scale. Much disaffection was created in the early part of the year by the stringent orders issued by General Halleck and the Provost Marshal General, such as the order taxing wealthy Southern sympathizers for the support of Union refugees, the order requiring all newspaper publishers to send a copy of each issue of their journals to the Provost Marshal's office on the penalty of having their papers suppressed, and other regulations of the same kind. The difficulty of putting these orders into execu-

tion, however, greatly mitigated their severity. The State convention met again June 3, 1862. Its most important acts were the postponing of the election of State officers until 1864 and continuing the present incumbents in office, and disfranchising of all persons that had taken part in the rebellion. An attempt was also made to introduce a bill for the general emancipation of the slaves of the State, but it fell flat. While this convention was still in session, however, a mass convention of emancipationists met, consisting of 195 delegates from twenty-five counties, and passed a number of resolutions in favor of gradual emancipation. Scarcely had these conventions dissolved when a new and formidable outbreak of guerrillas occurred, and the country was convulsed with a renewal of the fiercest form of the struggle. An election for members of the State Legislature and of Congress was held Nov. 4. The question of emancipation was the principal one before the people, and six of the nine Congressional representatives elected were avowed advocates of emancipation, while this party gained a majority also in both branches of the Legislature. Dec. 29, 1862, the new Legislature met, and continued in session until March 23, 1863. The State had now two Senatorial vacancies in the United States Congress, and one of these was filled by the Legislature by the election of John B. Henderson. A number of attempts were made to fill the other vacancy, but without success. June 15, 1863, the State Convention once more met, in obedience to the call of the Governor. In his message to this body Governor Gamble offered his resignation, but it was not accepted. This convention discussed the subject of emancipation principally, and passed a resolution strongly in favor of it. The State Legislature convened again Nov. 10, 1863. For the Senatorial vacancy B. Gratz Brown was elected, and as the unexpired term for which John B. Henderson had been elected was now near its close, he was re-elected for another full term. An act was likewise passed authorizing a State convention to consider needed constitutional amendments. Nov. 8, 1864, the Presidential election resulted in a majority in the State for Lincoln, and the Union candidate for Governor, Thomas C. Fletcher, was elected, as well as the entire Union ticket for State officers; a large majority of Union men in the State Senate, three-fourths of the members of the State Representatives, and eight out of nine members of Congress. Governor Gamble having died Jan. 31, 1864, the acting Lieutenant Governor, W. P. Hill, had taken his place, and sent in the annual message on the meeting of the Legislature Dec. 26, 1864. The newly elected Governor and Lieutenant Governor were installed in office Jan. 3, 1865. The State Constitutional Convention assembled in St. Louis Jan. 6. Its first act was to adopt an ordinance declaring "That hereafter in this State there shall be neither slavery nor involuntary servitude, except in punishment of crime, whereof the party shall have been duly convicted; and all persons held to service or labor as slaves are hereby declared free." It should be noted that Missouri was not only the first State to voluntarily free her slaves, but she declared the principle of emancipation twenty-

four days before the thirteenth amendment passed Congress. The convention then proceeded to prepare a new constitution, which was submitted to the vote of the people in June following and accepted. Much excitement and trouble was caused by a "test oath" provided for in the new constitution. So many persons refused to take it that it is said during the next several elections over a third of the citizens of the State were disfranchised. In addition to this, numbers of ministers, teachers, even lady instructors were arrested and imprisoned for refusing to take the oath, as the constitution required it of all members of the professions, but as the United States Supreme Court in 1865 declared this oath unconstitutional it was no longer enforced. A State election was held Nov. 7, 1865. The State Legislature met Dec. 20, 1865. It was largely composed of strong Union men, and strongly indorsed the action of Congress in its opposition to President Johnson. The Legislature elected in 1866 had also a majority of Republicans, for the Democrats did not succeed in effecting a reorganization of their party until 1867. The second session of the Legislature met Jan. 7, 1868. Its most important act was the appointment of superintendents of registration in each election district to exclude disloyal voters. As the test oath had been pronounced unconstitutional it was claimed that any one could take it without legal perjury, whether he really subscribed to it or not, and it was to guard against this understanding of the matter that these registrars were appointed with power to disfranchise those who could not bring suitable evidence of their loyalty although they had taken the oath. This law caused much dissatisfaction. In the November election of 1868 the Republicans again carried the State, giving a large majority for Grant as President, and electing their State ticket, at the head of which was Joseph W. McClurg, Governor.

#### LOUIS XVI. OF FRANCE.

ONEIDA, Kan.  
Give a history of the reign, dethronement and death of Louis Capet, king of France.

C. SHINN.

*Answer.*—The story of the causes that led to the ruin of the hapless Louis XVI. of France must go back to the history of the depraved Louis XV., his grandfather, whose long reign of fifty years was one of continued misfortune for France. In 1774, Louis XVI., with his handsome young bride, Marie Antoinette of Austria, came to the throne, all unconscious of the terrible destiny they had inherited through the crimes of their predecessors. That this destiny might have been averted had they been wiser, there is no doubt, but the training of royalty in those days was not such as to develop wisdom. The first question that faced the young king was the terrible one of finance, for the profligate expenditure of the late king had produced an enormous deficit in the state treasury, and it was a serious question how the glories of the court, to say nothing of its necessities, were to be paid for. By a fortunate chance the king was led to appoint Turgot as his Minister of Finance. Now Turgot was a man of good faith, high character and ability, but when he proposed the only true remedies for the



embarrassments of the government, economy and the taxation of the privileged nobility, the court and the nobles immediately formed a league to overthrow him. This opposition so increased in strength and virulence that the king was at last overruled and in 1776 he dismissed his only great minister, though with great reluctance, for he said: "Turgot and I are the only men in France who care for the people." It may be said that had Turgot lived till the critical times of the next decade, it is very possible that he might have been called into power again, and have mitigated, perhaps even arrested, the horrors of the revolution, but he died in 1781. There seems to be no doubt that Louis XVI., weak as he was, had a sincere affection for the people, and in late years, until the madness of the revolution seized upon them, they fondly styled him "the Good King." The next Minister of Finance was the famous M. Necker, a German banker, who tried no heroic remedies, but only how to make credit and float the country over difficulties. It was owing to his shrewd management that France was enabled in spite of her embarrassed finances to give such material aid to the Americans in the revolutionary war. He always insisted to the King that it would be a wise plan to publish the government accounts and thus to let France know how she really stood, but he did not succeed in doing this until 1781. This act was regarded by the court as actual treason, and the outspoken indignation of the Queen and her ladies forced the King to dismiss Necker from office. From this time on the Queen's influence was omnipotent over the feeble King, forcing him into follies that only hastened the inevitable ruin of both. She ruled with a succession of obscure and incompetent ministers—first M. de Fleury, then D'Ormesson, the latter leaving, when he resigned office, only 360,000 francs in the treasury, after having borrowed 350,000,000 francs in two years and a half. Then came the "ladies' minister," as he was called, Calonne, who found the treasury nearly empty, and the State on the verge of bankruptcy, and whose idea seemed to be that this state of things might be mended by encouraging the court in a most gay and profuse expenditure. But even Calonne was forced in a few years to admit the hopelessness of affairs, for in 1787 the government deficit had reached a total of over 50,000,000 francs. He then induced the king to call an assembly of the nobles, and proposed to them several important reforms, one of them being the equalization of taxes. Calonne thought that as he had proved himself to be a friend of the nobles, they would be willing to resign some of their privileges when he advised them to do so. But, to his astonishment, they would not hear of it, and he was forced to resign his office. He was succeeded by another of the Queen's favorites, the utterly incompetent Cardinal de Brienne, whose accession fanned into fury the popular dislike of the Queen, and marked the beginning of the end of the monarchy. In 1787 a difficulty between the court and Parliament aroused a demand for the convocation of the States General. This was a representative body which had once formed an important feature in the government of France,

but had not been convoked since 1614. Impelled by the desperate condition of affairs, the King called the States General to meet May 5, 1789. Brienne resigned and Necker was recalled. But the winter of 1788-89 was full of omens of horrors to come. The crop was poor, and the nobles revived a combination to keep up the price of grain; a scheme which they had more than once tried in previous reigns, but had been held back from generally under Louis XVI. by the King's humane objections. Hundreds of starving wretches from the country swarmed into Paris, thus increasing the impoverishment and discontent already existing there. In May, 1789, the States General met. This consisted of representatives of the nobles, the clergy, and the commons. The King wished the three estates to meet separately, as had been the ancient custom, but to this the third estate, or commons, would not agree. This order finally took possession of the hall, induced a large number of the clergy and a few of the nobles to sit with them, and named themselves the "National Assembly." At this the King was indignant, and he caused the hall to be closed against these representatives. Whereupon they withdrew to the tennis court, where they all took a solemn oath that they would not separate till "the constitution of the kingdom had been established and confirmed on solid foundation," and on this took a new name, the "Constituent Assembly." By firmness, this body, by June 27, 1789, had induced all the representatives of the three orders to take part in the assembly. The King, most unwisely at this point, sent for some Swiss and German soldiers for the defence of the palace, for he felt that he dare not trust the French guards. Necker resigned, as he would not take the King's part against the people. On the 12th of July the King's troops, in dispersing a crowd, fired upon the people. Instantly all Paris was in revolt, and the tri-color flag sprang into existence. July 14 the Bastille was assaulted and razed to the ground by the excited mob. The King was now terrified, promised to remove the troops, and Paris grew calm again, and Lafayette was put in command of the forces of the city. The King made his appearance in public with the tri-color cockade on his breast, and it is possible that he might have occupied his throne to old age as a constitutional king, but the Queen and the court made this impossible. The members of the court and the nobles immediately began to leave France, going over into Germany or to England. This action displeased the people very much, for it showed that the higher orders had little love of their country. The Queen stayed behind, for she was of a fearless disposition and loyal to the King. But she only succeeded in involving him with herself in utter ruin, for she could not keep from helping and sympathizing with the plots that the emigrants continued to carry on, in the hope of bringing power back into the hands of the higher orders. Meanwhile the King was forced to reinstate M. Necker, and the Assembly went on with its work. It was very radical in sentiment, and desired to right all existing wrongs. It laid down a broad declaration of the rights of men, and, in accordance with its principles, abolished all peer-

ages, privileges, titles, and orders. It drew up the new constitution, providing for a limited monarchy, without an absolute veto, and a single Chamber having alone the right of initiation of laws—the nation to order, the King to execute. But the King received the new arrangements very coldly, and the amazing folly of the members of the court and the Queen was shown by the fact, that though all Paris was trembling with excitement because of the famine among the people, a great banquet was given at Versailles to the Swiss guards. It was dancing on the edge of a volcano; a vast crowd, mainly composed of angry women, with the National Guard, headed unwillingly enough by Lafayette, marched out to the palace, made the King their prisoner, and forced him and the royal family to come to Paris, and take up their residence at the Tuileries. The emigration among the nobles increased, and everywhere there were suspicion and distrust. The Assembly went on with the plan of changing entirely the order of things, and to remedy the financial straits into which the government had come, it confiscated all the property of the church as well as the estates of the nobles. This was an unfortunate move, for it put the church and its adherents into direct opposition to the new order of things. This also turned the King against the Assembly, for hitherto he had been willing to attend its sittings, though disapproving of many of its acts. He now felt that the revolution must be stopped, and there were two courses open to him, either to combine against it all the persons of moderate opinions, and the despoiled nobles and clergy, as Lafayette and others desired, and make an effort to establish a constitutional government on a sound basis; or by calling to his help the refugees with foreign bayonets at their back, as the Queen urged him to do. Unfortunately he had not wisdom to see that the first was the only safe course, but at Marie Antoinette's instigation, he opened negotiations with the other kings of Europe. The Queen hated Lafayette, and did her best to neutralize his influence with the King. Mirabeau, however, one of the other leaders of the Assembly, whose influence she felt would help her, she flattered and cajoled. But Mirabeau died, and the King and Queen, feeling that they had no protector left, endeavored to flee from Paris in disguise. They were recognized and brought back, but were not harmed. The Assembly finished its work, and foolishly passed a "self-denying ordinance," providing that none of its members should be eligible for the next Assembly, nor for any office under the crown. The new Assembly met Oct. 1, 1791. By this time the Kings of Austria and Prussia had agreed to invade France unless Louis XVI. was set free and the refugee nobles restored to their rights. The assembly then passed an order calling upon the emigrants to return, under penalty of death and the loss of all their property. The King, in violation of the constitution, vetoed the order. The assembly then passed an act against the clergy, who had refused to take the oath of allegiance to the constitution, and the King vetoed this also. The assembly, however, took no note of the vetoes, and forced the King to

appoint a new ministry. He made choice of the wisest members of the Girondist party, the moderate upholders of the constitution. This ministry, in response to the threats of the Austrian King, declared war against him. Two battles were fought on the frontier, and in both the French were defeated. There were charges of treachery. The Jacobins, the party of extreme revolutionists, grew more powerful. Suspicions were rife against the King, and especially against the Queen, who, being an Austrian, was believed to be plotting to betray France to the enemy. Lafayette was now at the head of the army, but he made a great mistake in issuing a manifesto against the Jacobins, thus forfeiting his favor with the people, June 20, 1792. The Jacobins replied to this manifesto by marching against the assembly. That body, overawed, yielded to all their demands. They then forced their way into the palace, but the King met them with much dignity, wearing upon his head the red cap of the revolution, and they withdrew quietly. Prussia had now declared war against France, and the King and Queen had high hopes of their speedy deliverance. This gave the Jacobins opportunity to increase their power. Aug. 10, Danton, at the head of a mob, attacked and dispersed the assembly, marched against the palace, massacred the Swiss guards, drove out the royal family, and plundered their goods. Now began the rule of the Commune, the terrible scenes of the prisons, into which every one suspected of sympathy with the nobles, which meant the invading army, was thrust. Then came the mock trials, the employment of "killers at six francs a day," to massacre the condemned. This not destroying the obnoxious classes fast enough, the guillotine was invented. In November, 1792, the King was brought to trial. The trial resolved itself actually into a vote as to whether he was deserving of death. This vote was taken in the National Convention—the body which the Commune had put in the place of the Assembly—Jan. 17, 1793, and by 387 against 334, it was decided that he should die. Jan. 21, 1793, he was publicly executed. Oct. 14 following the Queen suffered a like fate.

#### TARIFF PLANKS.

FOWLER, IND.  
Publish the "tariff plank" in each National platform of the Republican party since 1856, also of each Democratic platform for the same period.  
J. H. C.

Answer.—The Republican platform for 1856 made no mention of the tariff, being mainly taken up with arraigning the opposite party for its part in "the crime against Kansas." The Democratic party of the same year declared "that justice and sound policy forbid the Federal Government to foster one branch of industry to the detriment of any other, or to cherish the interests of one portion to the injury of another portion of our common country;" also, "that no mere revenue ought to be raised than is required to defray the necessary expenses of the government, and for the gradual but certain extinction of the public debt"—both of which remarks were unquestionably directed against the high tariff that was regarded as far more advantageous to the manufacturers of New England



than to the planters of the South. The Republican platform in 1860 covered the subject by declaring "that, while providing revenue for the support of the General Government by duties upon imports, sound policy requires such an adjustment of these imports as to encourage the development of the industrial interests of the whole country: and we commend that policy of National exchanges (i. e., a protective tariff), which secures to the workingman liberal wages, to agriculture remunerative prices, to mechanics and manufacturers an adequate reward for their skill, labor, and enterprise, and to the Nation commercial prosperity and independence." Both of the Democratic platforms of that year, that is, those passed by the Douglas and Breckinridge factions, refer to the platform of the party in 1856 as an affirmation of principles, and only further add such resolutions as the new exigencies of the times seem to demand. In 1864 both platforms were so taken up with the questions connected with the war that they had no space for tariff planks. The matter was further omitted by the Republicans in 1868, a clause to the effect that "taxation should be equalized and reduced as rapidly as the National faith will permit," obviously referring directly to internal revenue taxes, while the Democrats took it up by demanding "a tariff for revenue upon foreign imports, and such equal taxation under the internal revenue laws as will afford incidental protection to domestic manufactures, and as will, without impairing the revenue, impose the least burden upon and best promote and encourage the great industrial interests of the country." In 1872 the Republican plank on this subject was as follows: "The annual revenue, after paying current expenditures, pensions, and interest on the public debt, should furnish a moderate balance for the reduction of the principal, and that revenue, except so much as may be derived from a tax on tobacco and liquors, should be raised by duties upon importations, the details of which should be so adjusted as to aid in securing remunerative wages to labor and promote the industries, prosperity, and growth of the whole country." The Democratic plank in the same year was: "We demand a system of Federal taxation which shall not unnecessarily interfere with the industry of the people, and which shall provide the means necessary to pay the expenses of government, economically administered, the pensions, the interest on the public debt, and a moderate reduction annually of the principal thereof; and recognizing that there are in our midst honest but irreconcilable differences of opinion with regard to the respective systems of protection and free trade, we remit the discussion of the subject to the people in their Congressional capacity, and to the decision of Congress thereon, wholly free from executive interference or dictation." In 1876 the Republicans offered the following: "The revenue necessary for current expenditures and the obligations of the public debt must be largely derived from duties upon importations, which, as far as possible, should be adjusted to promote the interests of American labor and advance the prosperity of the whole country;"

while the Democrats said: "We denounce the present tariff, levied upon nearly 4,000 articles, as a masterpiece of injustice, inequality, and false pretense. It yields a dwindling, not a yearly rising, revenue. It has impoverished many industries to subsidize a few. It prohibits imports that might purchase the products of American labor. It has degraded American commerce from the first to an inferior rank on the high seas. It has cut down the sales of American manufactures at home and abroad, and depleted the returns of American agriculture—an industry followed by half our people. It costs the people five times more than it produces to the Treasury, obstructs the processes of production and wastes the fruits of labor. It promotes fraud, fosters smuggling, enriches dishonest officials, and bankrupts honest merchants. We demand that all custom-house taxation shall be only for revenue. In 1880, both parties touched the matter briefly, the Republicans re-affirming "the belief avowed in 1876 that the duties levied for the purpose of revenue should so discriminate as to favor American labor," and the Democrats calling for "a tariff for revenue only." In 1884, the Republicans declare "It is the first duty of a good government to protect the rights and promote the interests of its own people. The largest diversity of industry is the most productive of general prosperity and of the comfort and independence of the people. We therefore demand that the imposition of duties on foreign imports shall be made not for revenue only, but that in raising the requisite revenues for the government, such duties shall be so levied as to afford security to our diversified industries, and protection to the rights and wages of the laborer, to the end that active and intelligent labor, as well as capital, may have its just reward, and the laboring man his full share in the National prosperity. Against the so-called economic system of the Democratic party, which would degrade our labor to the foreign standard, we enter our most earnest protest. The Democratic party has failed completely to relieve the people of the burden of unnecessary taxation by a wise reduction of the surplus. The Republican party pledges itself to correct the irregularities of the tariff and to reduce the surplus, not by the vicious and indiscriminating process of horizontal reduction, but by such methods as will relieve the taxpayer without injuring the laborers or the great productive interests of the country." The Democrats, in reply to this, charged the Republican party with creating and continuing the irregularities in the tariff that it was pledged to correct; also with injuring, not protecting, industry by taxing raw materials, and declared that "the Democratic party is pledged to revise the tariff in a spirit of fairness to all interests. But, in making reduction in taxes, it is not proposed to injure any domestic industries, but rather to promote their healthy growth. \* \* \* The process of the reform must be subject in the execution to this plain dictate of justice—all taxation shall be limited to the requirements of economical government. The necessary reduction in taxation can and must be effected without depriving American labor of the ability to compete successfully with foreign labor, and with-

outimposing lower rates of duty than will be ample to cover any increased cost of production which may exist in consequence of the higher rate of wages prevailing in this country. Sufficient revenue to pay all the expenses of the Federal Government economically administered, including pensions, interest, and principal of the public debt, can be got under our present system of taxation from custom-house taxes on fewer imported articles, bearing heaviest on articles of luxury, and bearing lightest on articles of necessity. We, therefore, denounce the abuses of the existing tariff, and subject to the preceding limitations, we demand that Federal taxation shall be exclusively for public purposes and shall not exceed the needs of the government economically administered."

#### SOME EXPORT QUERIES.

**GIRARD, Ill.**  
1. What manufactured products do we export to Europe? 2. Do we send any cotton goods to England (to Manchester for instance)? Where do we sell our goods when we export them?

**S. M. WRIGHT.**

*Answer.*—Last year we exported raw cotton to the value of \$205,086,742; cotton manufactures, \$13,953,934; wheat, \$50,262,715; wheat flour, \$38,442,955; maize, \$31,730,922; meat, butter, eggs and other farm produce, \$90,625,216; petroleum, \$50,199,844; tobacco, \$30,424,906; wood and its manufactures, \$20,643,390; iron and steel manufactures, \$15,755,490; cattle, \$10,958,954; sugar and molasses, \$12,191,766; of all other exports no one reached \$10,000,000. The total of our exports was \$665,964,529. The raw cotton went chiefly to England; manufactured cotton to South America and China; wheat, corn and farm produce to England. 2. We send no cotton manufactures to Manchester, nor to any other English center.

#### EDUCATION OF THE BLIND.

**MACON, Ga.**  
Will Our Curiosity Shop tell us something about the teaching of the blind?

**W. C. JONES.**

*Answer.*—Mr. William S. Phillips, who has been connected for many years with the Illinois Institution for the Blind, at Jacksonville, has kindly furnished the following information on the subject: In most schools for the blind books in raised print are used. The touch of blind persons is generally so acute that they learn their letters as soon as seeing children, and progress in their work rapidly. The work in a school is about equal to the ordinary high school course. Pupils are classified as in other schools. But persons who become blind at the age of 20, for instance, must begin with the alphabet as little children do. They learn the alphabet and pass on to where their attainments would place them. Writing is taught by tracing with a pencil letters sunk into a stiff card. The form of the letters is soon learned, and some very creditable writing is done in this way. This manner of writing can be read by seeing persons only. The point systems, Braille's and Wait's, are used by blind persons to communicate with each other. The Wait system is more generally used in this country. The use of the type-writer is being taught in the Illinois Institution for the Blind. This may open a new field. The type-writer used is soon mastered, and some excellent work has been done. Music plays an important part in their education. Music is read to the pupil, who

writes it in Braille or Wait system. The music is studied by the pupil at the instrument until it is memorized. Correct time and tune they insist upon. No class of people enjoy music more thoroughly and critically than the blind. The course in music at the Illinois Institution for the Blind is quite broad. Opportunities are offered for orchestral study, piano and pipe organ, vocal culture, and thorough knowledge of harmony, composition, etc. Many useful trades are taught in mechanical departments, designed to make blind men self-supporting. The main end to be sought in the education of the blind is to fit them to compete in as many ways as possible with the more fortunate who can see, and take them out of their despondency and give them a worthy object to accomplish in life.

**OLIVER P. MORTON.**

**CHICAGO.**

Give a sketch of the late Oliver P. Morton, of Indiana.

**R. B. N.**

*Answer.*—Oliver Perry Morton was born in Wayne County, Indiana, in 1823. The original family name was Throckmorton, the first syllable having been dropped by the Senator's father. He received the elements of education in his native county, and completed his course with two years at Miami University, Oxford, Ohio. He studied law, and was very successful in his profession. He was a Democrat in early life, but, having strong anti-slavery sympathies, left the party after the repeal of the Missouri Compromise in 1854. In 1856 he was candidate for Governor of his State, but was defeated. In 1860, however, he was elected as Lieutenant Governor, and two days after he had taken his seat as President of the Senate he was called upon to take the oath of office as Governor, Henry S. Lane, who had been elected to that position, having been chosen United States Senator. During the war Governor Morton was very zealous in raising troops. His mode of action offended many, and in 1863 the Democrats, having a majority in the Legislature, attempted to take the military power out of his hands and put it in charge of a commission. This project was defeated by the withdrawal of all the Republican members of the Assembly, leaving both houses without a quorum. As the Legislature did nothing at this session, the necessary appropriation bills for carrying on the government of the State were not made, and until the meeting of the next Legislature Governor Morton raised the needed funds for the State on his own personal responsibility. The obligations which he incurred were afterward assumed by the State. In 1864 he was elected Governor by a large majority. He had a paralytic stroke the following year, and went to Europe for some months; then, returning, in spite of impaired health he reassumed his executive duties. He was elected United States Senator in 1867, and was again chosen in 1873. He took a prominent position in the Senate as a leader of the more radical Republicans. He favored the stern policy in the reconstruction of the States, and is credited, though probably incorrectly, with the authorship of the phrase "waving the bloody shirt." He was a candidate for President at the Cincinnati convention of 1876, and his name stood



second on the first ballot, but he was of too pronounced opinions to unite the factions of the party, and these united on the seventh ballot on Mr. Hayes. Senator Morton was a member of the Electoral Commission. He died of paralysis at Indianapolis, Nov. 1, 1877. He was a man of vigorous intellect and iron will, and great energy. He was a popular orator, his style being marked by force rather than elegance. He was the youngest, excepting Sprague of Rhode Island, of the famous war Governors, and was regarded as the strongest.

#### URSULA AND HER ELEVEN THOUSAND VIRGINS.

GARDE POINT, ILL.  
Give the legend of St. Ursula and the 11,000 virgins.  
M. S. S.

*Answer.*—St. Ursula was said to be a princess of Great Britain who was martyred near Cologne, with 11,000 virgins who accompanied her. Certainly some parts of the story are fabulous, but it is not possible to accurately separate truth from falsehood in these ancient legends. The accepted story is that Maximus the Roman, being proclaimed emperor of Britain by his army in 382, went over into Gaul to establish his power against the opposition of the Gallic emperor, Gratian. One of his commanders, Conan, who was a British prince and a Christian, conducted himself so bravely on this expedition that Maximus made him the ruler of Brittany. Conan having established his residence at Nantes, sent ambassadors to ask Ursula in marriage from her father, Dunnat, King of Cornwall, with as many young women as were willing to come with her and become the wives of the Britons who had settled with Conan in Brittany. King Dunnat received the deputation favorably, and the Princess and her companions consented and took ship at London for Brittany. A storm, however, drove them upon the German coast, where they were captured by the Huns, and being exhorted by St. Ursula to die rather than surrender their virtue, they were all barbarously massacred. This was in the year 383. The question of the number of slain virgins has never been settled. A historian of the eighth century only says that the number was very great; it is not until the twelfth century that we find the assertion that there were 11,000 of them. But the ancient record on St. Ursula's tomb read simply: "Ursula et XI. M. V.," which some writers insist meant only "eleven martyred virgins," but others read the M as a numeral and translated it 11,000 virgins. There is in Cologne a church dedicated to the 11,000 virgins, where a great pile of skulls and bones is shown as those belonging to the martyred damsels.

#### DIVISION OF DAKOTA.

LE MAR, IOWA.  
Give an account of the attempts to divide the Territory of Dakota, and tell why they did not succeed.  
SUBSCRIBER.

*Answer.*—Ever since 1871 the wishes of a large part of the people of Dakota for division of the Territory upon the 46th parallel have been expressed at intervals through the Territorial Legislature and in public gatherings and conventions. The division, as proposed, would give South Dakota an area of 77,000 square miles, with a population, according to official computation in 1885, of 263,553. In the winter of 1881-2, Congress

was petitioned to pass an act enabling the people of South Dakota to form a Constitution and State government, and continuing the Territorial organization for the northern part. Since Congress failed to act, the Territorial Legislature the following winter passed a bill providing for the calling of a convention to frame a constitution for the southern part of the Territory, but the Governor withheld his signature and the bill failed. Nevertheless, a preliminary convention was held at Huron, and a regular convention called to meet at Sioux Falls, in September, 1883. At Sioux Falls 150 delegates, elected by the people, framed a constitution which was voted on at the polls in November and adopted. Again Congress was petitioned, but in vain. In February, 1885, the Territorial Legislature, with the approval of the Governor, provided for a new constitutional convention, which was held at Sioux Falls in September, and at the November election a new constitution was presented for adoption, and State officers were nominated with due formality. The constitution was approved by a vote of 25,138 to 6,527. A. C. Mellette was chosen Governor by a vote of 28,994, and by a similar vote an entire State ticket was elected. However, South Dakota was never recognized as a State by Congress, and the organization failed of its purpose. In 1886 a vote was taken on the division question. This vote was nearly two to one in Northern Dakota against division, and two to one in Southern Dakota for division. As South Dakota is much more thickly populated than the northern part, the result on the aggregated vote was unquestionably for the division, but the votes of the two parts of the State had been taken separately, and thus one nullified the other. The sentiment is now, however, for division and for admission as two separate States.

#### THE "LADIES DEPOSIT" AND MRS. HOWE.

CHICAGO.  
Please give a full account of the bank managed in Boston by Mrs. Howe some years ago. Is it true that the female sharper, exposed by THE INTER OCEAN some months ago in this city, was the same person?  
READER.

*Answer.*—The Boston operations of this gifted swindler began some nine years ago. Some time before April, 1879, Mrs. Sarah Elmer Howe opened a private bank, called the Ladies' Deposit, at No. 2 Garland street, Boston. Publicity was shunned rather than sought, but the managers of the bank let it be known that they would pay interest at the rate of 2 per cent per week on all money deposited with them. Conditions were imposed, however. Depositors must be single women, owning less than \$1,500; and they must deposit not less than \$200 nor more than \$1,000. Each new depositor must be introduced by some preceding depositor. The payment of interest was afterward changed to 8 per cent a month, payable every three months in advance, and the bank removed to a larger house at No. 2 East Brookline street, but beyond this few changes were made. The success of the enterprise in securing deposits was remarkable. It was apparent that the institution was not doing a legitimate banking business, since no business could afford to pay such a rate of interest for the use of money. In explanation of this point, Mrs. Howe

stated that she was dispensing a charity, a fund contributed by "the Quakers." There was no appearance of keeping a bank, no sign upon the building, no office fixtures, no safe, the money being simply placed in a bureau drawer; no books were kept, no entries made except in the little pass books which were given to depositors. To all inquiries as to the financial standing of the bank, there was returned a simple refusal to explain or even to give references, accompanied with a reminder that "You need not deposit, unless you wish; we do not solicit." Mrs. Howe herself was described as vulgar in appearance, and brusque in manner, utterly without reputation, her previous life (unknown, of course, to the depositors) having been criminal to the last degree. And yet, in spite of these drawbacks, the bank must have received during the two years of its existence, nearly \$500,000. Jan. 8, 1880, a reporter of the *Boston Herald* wrote up the bank very fully, implying but not actually stating that it was a swindle. Mrs. Howe replied in a letter to the paper, advising the reporters to mind their own business. Some few of the depositors took the alarm and withdrew their funds, but most were deterred by the regulation that a person withdrawing should not be allowed to deposit again. The publicity given by the newspaper drew in new depositors, who seemed to think the solvency of the bank assured by its ability to pay out a few thousand dollars. After a season of exceptional prosperity, came the exposure and collapse. Sept. 25, 1880, the *Boston Advertiser* commenced the exposure of the concern, and kept on attacking it for three weeks. If Mrs. Howe had been shrewd, she would have decamped at this juncture, but she evidently hoped to weather the storm, and for a week maintained her position, paying out to her frightened depositors about \$80,000. Then she was forced to suspend "temporarily." A week later her dupes appealed to the law, and bank and banker were put into the hands of the Sheriff. Oct. 18, Mrs. Howe and her assistant, or partner, Mrs. Julia Gould, were held to bail for "cheating by false pretenses," and in due course of time were indicted. Mrs. Howe was tried and found guilty, April 25, 1881, and was sentenced to five years' imprisonment. It is a curious fact that, though this woman had shown herself an absolute disgrace to her sex in every way, and also its worst enemy, by robbing simple-minded women of thousands of dollars, a number of good women came forward in her defense. They declared that the newspaper exposure of Mrs. Howe was prompted by the injustice of man to the weaker sex, and especially they refused to admit that her methods of doing business should have shown her depositors that she was a cheat and a fraud. Mrs. Howe served out her time in prison, and immediately upon her release went over into Canada, where she tried to carry on some of her peculiar schemes, but was prevented. It was thought when a woman under the name of Mrs. Elmer began doing business after the manner of the "Ladies' Deposit" in Chicago that Mrs. Howe had made her appearance here. And by comparing the appearance of this woman with the description of the

Boston sharper, the identity seemed to be proved. This time, when the newspapers began to ferret out the case, the adventuress disappeared suddenly, leaving no traces behind her. It is not known how many she succeeded in "taking in" when operating in Chicago.

#### THE BOLIVIA-CHILI WAR.

SOUTH WHITLEY, Ind.  
Give a sketch of the Bolivia-Chili war. What is the present capital of Bolivia? C. PENCE.

*Answer.*—Bolivia, formerly known as Upper Peru, formed from 1767 a part of the vice-royalty of Buenos Ayres, and was erected into an independent state in 1825, taking the name it still bears in honor of Simon Bolivar. The new state, however, from its land-locked position, was not able to compete in commercial importance and industrial enterprise with neighboring states. It possessed but a few miles of sea-board, with two small ports which were only accessible over a narrow strip of desert wedged in between the maritime countries of Peru and Chili, and was obliged to carry on the bulk of its commerce over Peruvian territory and through Peruvian ports. There was always a contention between Chili and Bolivia concerning the question of boundary, the Chilians claiming that their territory extended northward on the sea-board, so as to include a part of the Desert of Atacama, and the Bolivians fixing the southern boundary of the desert as their limit. But, in fact, Chili remained in peaceful possession of this territory until 1842, in which year the discovery of guano deposits on the strip of coast, and the appropriation of these by the Chilian government, brought the Bolivian government forward as a claimant for what was supposed to be a rich prize. The Chilian government continued to exercise jurisdiction over these deposits until 1864, though Bolivia continually protested, when threatened hostilities with Spain had the effect of uniting these adjoining states in the desire to oppose a common enemy. Under the influence of this feeling the republics of Chili and Bolivia, in 1866, made mutual concessions of their respective rights and privileges in a treaty of limits establishing the boundary line at 24 deg. south, but fixing a neutral zone between latitude 23 deg. and 25 deg., wherein both countries should share equally in customs receipts and export duties on minerals. Some years later it was discovered that the land of this neutral zone was rich not only in guano, but in mineral wealth also, and especially in vast deposits of nitrate of soda. The trade in the latter substance became large, chiefly through the efforts and capital of the Chilians, but Peru, which had similar deposits, of whose working the government held a monopoly, was apprehensive that the competition of Chili would reduce the price of this valuable substance. Rights in the nitrate beds of the Peruvian province of Tarapaca were purchased by both Bolivian and Chilian companies. In 1872 Peru forced these companies to sell their interest at a loss, and in 1873 she entered into a secret alliance with Bolivia, with a view to seizing and confiscating the nitrate works in the neutral zone. Of this treaty Chili knew nothing, but she felt that it was necessary in behalf of her citizens and their property to insist



upon a new treaty or a revision of the former boundary. Therefore, in August, 1874, a new treaty between Bolivia and Chili was signed and duly ratified. This treaty abolished the neutral zone. By it the possession of this zone was assigned to the Bolivians, but it was provided that the Chilians should continue to work the nitrate beds and export the guano exempt from any impost taxes on the part of the Bolivian government. However, the friendly relations established by this treaty did not prove enduring. In 1878 the Bolivian government levied a heavy duty on the nitrate trade in contravention of express treaty stipulations. It was thought that the violation of her pledges on the part of Bolivia was incited by the Peruvian government, which found Chilean competition interfering seriously with profits from its monopoly of the nitrate trade. When the Chilean government protested, the export duty was removed, but almost immediately after the property of the Chilean companies working in the former neutral zone was declared confiscated to the Bolivian Government. Chili, therefore, declared war against Bolivia, and sent troops, who took possession of the disputed territory. Soon after, the fact of the secret treaty between Bolivia and Peru having been made public, Chili, in just indignation, declared war against Peru also. For the first six months the war was confined to naval battles, in which the Chilians were generally victorious. Several land battles followed, the Chilians landing on the Peruvian coast and capturing numerous towns and villages, which they pillaged in barbarous fashion. In the summer of 1880 they planned the campaign against Lima, the Peruvian capital. Having nearly annihilated the Peruvian navy, they easily blockaded Callao, the port of Lima, and landed troops at Pisco and Curayaco. A force of 22,500 infantry, 800 cavalry, and 3,400 artillery, with eighty cannon and ten Gatling guns—in all about 30,000—commanded by General Baquedano, gathered near Curayaco and advanced upon Chorillos, a village eight miles south of Lima. Pierola, President of Peru and commander-in-chief of the Peruvian army, marched to Lurin to meet the invaders, leaving General La Coteria with 7,000 troops to defend the capital. This was in the latter part of December, 1880. Early in January the Peruvian forces were routed at Miraflores, near Chorillos, and on the 17th the Chilians occupied Lima. The Peruvian loss is given as 7,000 killed and 2,000 taken prisoner. The horrors of this campaign were increased by the disorganized condition of the governments of both Peru and Bolivia; there being no force to protect the inhabitants against the most barbarous cruelties on the part of the invaders. After the first defeat of the Peruvians by the Chilean troops, in 1880, General Prado, then President of Peru, was forced to flee from the country to escape the indignation of the people. A few months later an insurrection in Bolivia deposed General Daza, the President there, for a similar reason. General Pierola was installed in Peru, and General Campero in Bolivia by the popular party. But early in 1881 further serious defeats of the Peruvian army had brought Pierola into disfavor, and he

was deposed and General Calderon installed in his place. The followers of the former leader, however, aided him to set up a government in the interior of the country, and for over two years the country was the prey of two, and sometimes three, contending political factions, as well as of a cruelly victorious foreign army. Not until October, 1883, was peace concluded by a treaty between the contending nations. The terms of the treaty included the cession to Chili of the province of Tarapaca permanently, and of Tacna and Arica for a term of ten years. At the end of that time the people of the two last-named provinces are to decide by popular vote to which country they prefer to belong, and the preferred government is to pay to the other \$10,000,000 before acquiring possession. The treaty between Bolivia and Chili was not signed until early in 1884. By its terms Bolivia was deprived of all sea-board territory, but was allowed commercial rights at the port of Antofagasta, and the right of way across the strip of land held by Chili on the coast. The capital of Bolivia is La Paz.

#### LINSEED OIL.

ALEXANDRIA, D. T.  
C. E. SWANLEY.

Give the process of extracting the oil from flaxseed.

*Answer.*—Flaxseed oil, or linseed oil, is obtained by pressure from the seed of flax. The seeds are usually stripped from the dry flax stalks by a process called "rippling," which is drawing the stalks, a handful at a time, through a set of iron teeth standing in a row, half an inch apart at the top and a quarter of an inch at the bottom. The seed-bolls are then well dried, then threshed and winnowed, to remove the outside hull or capsule from the seed. The latter are then ground in mills, and the powder is subjected to powerful hydraulic pressure, which extracts the oil. Sometimes the seed is roasted before grinding, because the heat destroys the gummy matter in the interior coating of the seeds. The oil is therefore secured more free from mucilage, but it is of a higher color and of more acrid taste than that expressed from the raw seed.

#### A TARIFF QUESTION.

DOUGLAS, Kan.

1. Is it not a fact that, whatever the per cent ad valorem is on imported goods, an article of the same kind and quality being produced by American manufacturers at 25 or 50 per cent less cost, does not the American manufacturer add the 25 or 50 per cent duty that the importer pays to get into our markets, and that we as consumers pay the 25 or 50 per cent? 2. Please enumerate the articles and the per cent separately that we pay internal revenue on.

HENRY BUTLER.

*Answer.*—The duty is not added to the price. THE INTER OCEAN has replied to this query at least a thousand times. For example, the duty on calico prints is 5 cents per yard; but they are often sold as low as 4, and very seldom higher than 7 cents a yard. John Bright, the famous English orator and free trader, who is also a carpet manufacturer, said in a speech to his constituents that when he sent his goods to America he first paid a tariff duty, "and then was forced to accept the low price fixed by competition among the American makers." The importer pays the duty, not the consumer.

(2) Internal revenue is raised from taxes on fifty articles and trades, banks paying tax in five

different forms and degrees. Fermented liquors, meaning beer, ale, porter, etc., pay a tax of \$1 per barrel. Wholesale dealers in such liquors are also taxed. Spirits are taxed 90 cents per gallon. Wholesale and retail dealers are also taxed; so are the makers of stills, first by license tax of \$50, next by a tax of \$20 on each still made. Rectifiers of spirits pay a license of from \$100 to \$200. Tobacco is taxed 3 cents per pound, and seven other taxes come from it in forms of license, permit, or stamps. Cigars are taxed \$3 per 1,000, and there are indirect taxes in form of license and stamps. Wines made in imitation of European brands are taxed \$2.40 per quart. Oleomargarine is taxed 2 cents per pound, manufacturers of it pay a license of \$600 a year, wholesale dealers \$480, retailers \$48. These are the chief sources of internal revenue.

#### LEPROSY.

**Give a full history and explanation of that dread disease, leprosy. Give the cause of the pestilence and symptoms and duration of the disease. Is there any place in this country where lepers are isolated? Why do not the eminent physicians of modern times treat the disease?**

CAPAC, MICH.

G. LEACH.

**Answer.**—Leprosy seems to have been a name applied by the ancients to various skin diseases. Greek writers say that it originated in Egypt, and there were certainly cases among the Hebrews when they migrated from that country. In Leviticus xiii there is a minute diagnosis of the indications of the disease, but the word there translated leprosy must be taken as including various affections of the skin, since cases in which progress can be seen within the short term of seven days, and those which could be healed by the cleansing ceremonies, could hardly have been cases of true leprosy, a disease always incurable, and developing by months and years rather than weeks. The early Greek and Latin writers speak of leprosy as a foreign disease, but 100 years before Christ there were cases both in Greece and Italy; it was believed that the disease was brought by the armies returning from Asia and Africa. The disease soon appeared in the Roman colonies, and from the fourth to the eighth centuries many leper houses were built in Central Europe and in Britain, and stringent laws were passed isolating the patients. During the crusades leprosy became epidemic in Western Europe; it attacked the people in great numbers and in all ranks, and there was a retreat for lepers in nearly every large town. These unfortunates were obliged to wear long grey or white gowns, with the hood drawn over the face, and to carry a wooden clapper to give warning of their approach. They were forbidden to enter a church or other place of gathering, to eat or drink with healthy persons or to touch them, or to wash in the streams or walk in narrow paths. The disease began to decline in the fifteenth century, and had almost entirely disappeared in the seventeenth. Survivals of the great medieval outbreak are still found on the coast of Norway and in the Baltic provinces, also on the Sicilian coasts and in certain provinces of Spain and Portugal; also in the islands of the Levant and along the Black and Caspian Seas. It is found all over the East, from Syria to Japan, on the Malayan peninsula and adjoining isles, in

Egypt, and all along the east and west coasts of Africa. Leper villages exist in China, Japan, and Persia. In the new world the disease exists in Brazil, also in various points of Central America, Mexico, and the West Indies; but omitting the case of a small isolated French colony in New Brunswick, the disease has not been known in the Northern States of America, except as brought thither by travelers from other countries. As to its characteristics, leprosy is an incurable constitutional disease, marked externally by discolored patches and nodules on the skin, and affecting greatly the structure and functions of the peripheral nervous system. It may be months and even years in developing, its preliminary stage being marked by great lassitude, pains in the limbs, and periods of fever and chill. Next follows the periodically eruptive stage, during which blotches on the skin come and go, sooner or later these leave permanent spots, brown or white, or nodules, on the skin. The disease diverges into two main forms, the spotted and the nodular, but both forms may exist in the same locality, or even in the same person. The spots are often raised and indurated, and may turn dark, as in black leprosy, or become blanched, which is white leprosy. The disease is usually marked by anæsthesia, or entire loss of feeling in the spots affected. When the nodules form, they are at first small scattered points only, but grow and coalesce to the size of large nuts. The spots may occur on any part of the body, but the nodules most often appear on parts of the face, causing a thickening and most repulsive aspect of the features, and also on the hands and feet. From being thus exposed to the weather and to injuries the nodules often ulcerate and the ulcers spread and destroy the adjoining flesh. Ulceration and necrosis also sometimes occur at the joints of the fingers and toes, causing these to drop off joint by joint. The nature of the disease is but imperfectly understood. By some authorities the nervous lesions are taken to be primary, while the changes in the skin and other parts are regarded as the result of the nervous affection. By some later investigators it is classed as a parasitic disease, because of the bacillus rods in the leprous growth. The essential cause of the disease is still unknown. From the fact that it is believed to have had its origin in the delta of the Nile, and that it still most commonly appears among people inhabiting the sea coast or the estuaries of rivers, it has been supposed that it is caused by the eating of putrid fish. Close intermarriage is also believed to be an active cause of the disease. The old idea that the disease is contagious is no longer believed, and the stringent rules compelling the isolation of the victims where the disease exists are not now enforced, but it is known to be hereditary, and lepers are forbidden to marry. As to its cure, every known drug has been tried for it. It has been made the subject of exhaustive study by skilled physicians repeatedly, with no result, apparently, but to confirm the belief in its incurable nature. However, modern science has found a cure which has certainly proved effective in some instances, in electricity. This, applied both by continuous and



interrupted currents, has not only restored the paralyzed nerves to a degree of sensation, but has dissolved the tumors and nodules, and caused them to disappear. During the electrical treatment, iodine is applied both internally and externally, strict dieting is insisted on, and a series of tonics administered. The discovery of the value of electricity as a remedial agent in this dreadful disease is regarded as of great scientific importance.

#### THE HINDU AND HEBREW GENESIS.

BENSON CENTER, Mich.

Is the Hindoo legend or account of creation identical or nearly so with the Mosaic, and which of the two histories has the best claim to antiquity?

E. T. DICKSON.

*Answer.*—The Vedas, or sacred books of the Hindus, do not adhere to any settled account of the creation. By them the existence of the world is attributed to the power of sacrifice brought by the gods. Purusha, which is the spirit of the world, or the idea of men, takes the place of the sacrificial animal, and from his death arise Indra, the god of storms, and Agni, the god of fire. In another hymn of the Rig-Veda the origin of this world is ascribed to religious meditation. First was formed the desire, or love, which was the first seed. Fire, it declares, is the creative element in the souls of the world as well as in the soul of man, and it is love that calls it forth and causes it to create. Manu was the first ancestor of mankind; he was heaven born, was nourished and protected by the gods, and had the earth assigned to him as his dwelling place by Vishnu. He was the son of a mortal father and an immortal mother. The teachings of the Hindu religion, Buddhism, do not accept the fact of any creation. "The worlds are," they say, "from the not beginning, in a continual revolution of rising and perishing." Succession is the only reality, everything else being a process and progress of becoming in the concatenation of cause and effect. This rotation has no cause, hence no beginning. It is not within the domain of intellect to know whence all entities come and whither they go. Four things are said to be immeasurable—the science of Buddha, space, the number of breathing beings, and that of worlds. Worlds have been continually, from the period of the "not beginning," destroyed and renewed by a process briefly detailed thus: The world for many years steadily grows more and more wicked, and monsters and the damned souls are reborn as men. Then at the appointed period a great cloud rains for the last time, then a second and a third sun dry up all the flowing waters, a fourth and fifth dry up the ocean, a sixth heats the earth to the point of combustion, and at last a seventh sun kindles it to a flame, which consumes the world to less than ashes. The interval of emptiness between destruction and reconstruction is long, but at its end a wind from the ten quarters begins to blow; then a cloud gathers; rain, contained by the wind as in a vessel, fills the vacuum up to the reservoir; then all beings are reproduced by the churning action of the wind. Many of the beings preserved in the higher heavens are reborn on the new earth at first holy, but gradually they develop evil appetites and desires, and deteriorate in the degree of their sinfulness. It

will be seen that nothing could be further from the simplicity of the Mosaic legend, than the tangled and contradictory fables of the Hindu. As to the relative antiquity of the two versions, it is difficult to state, but the weight of evidence is in favor of the Hebrew. The time of Moses was between 1500 and 1400 B. C., and there is no doubt that the Hebrew version of the history of the creation existed then in tradition, if it was not written. But the fact is, the account as given in Genesis is now ascribed by scholars to a writer living before the time of Moses. Max Muller, a noted student of Eastern tongues, places the time of the first of the Vedic hymns from 1200 to 1000 B. C., and the latest at 200 B. C. The traditional antiquity of the substance of these hymns it is impossible to compute. The theories of Buddhism probably originated with the founder of that religion, who lived about 500 B. C.

#### ARTIFICIAL STONE.

EVERGREEN, Ala.

How is artificial stone made, such as is used for pavements or sidewalks? Could any one make walks of it without infringing on some patent right?

E. B. STOUT.

*Answer.*—Artificial stone, or, more properly building cement, can be made in various ways, and several processes for its manufacture have been patented. The materials for this substance are obtained from beds of natural argillaceous marls and marly limestones, which contain certain proportions of lime, silica, and alumina. These stones are first burned, then ground to powder in mills. This substance is mixed with water and sand in certain proportions and hardened, sometimes under pressure. What is known as imitation marble is made of burnt gypsum, to which is added lime and water. Hydraulic and other cements are also used to imitate stone in building. There have been, as we said, patents granted on several processes for making artificial stones, but the mere mixture of lime or marls with water and sand can not be patented.

#### THE ISLANDS OF ST. JOHN AND ST. THOMAS.

LARNVILLE, IOWA.

When and in what manner did the United States acquire the islands of St. John and St. Thomas in the West Indies? What is their value?

S. M. STOFFER.

*Answer.*—In November, 1867, the Danish government concluded a treaty with the government of the United States respecting the sale of two of the Virgin Islands, belonging to a group adjoining the West Indies, known as the islands of St. Thomas and St. John. The price fixed upon the islands was \$7,500,000. The Danish government was quite willing to sell also the third important island of the group, Santa Cruz, but this was made dependent upon the consent of France, which was not given. The transfer of the islands to be sold was to be dependent upon a vote of the people of the islands in favor of it. In December, 1867, therefore, an election was held in the islands which resulted in a vote of 1,244 in favor of the transfer and 22 against it. In January, 1868, both houses of the Danish Rigsdag unanimously ratified the transfer, and on Feb. 1 following the King signed the treaty. The matter however, was viewed with much indifference in this country, and the treaty has not yet been rati-

fied by the Senate, so that the islands still nominally bear allegiance to Denmark.

#### THE LASKER INCIDENT.

HOMER, Ohio.

Give an account of the resolutions offered in Congress on the death of Herr Lasker and their reception by Bismarck.

R. STEELE.

*Answer.*—Professor Lasker died in New York Jan. 5, 1884. Jan. 9, Congressman Ochiltree of Texas, moved partly by respect for the deceased gentleman, and partly by the fact that he had among his constituents a brother of the Professor, offered in the House the following resolution: "*Resolved*, That this House has heard with deep regret of the death the eminent German statesman, Edward Lasker. That his loss is not alone to be mourned by the people of his native land, where his firm and constant exposition of and devotion to free and liberal ideas *have materially advanced the social, political, and economic conditions of those peoples*, but by the lovers of liberty throughout the world. That a copy of these resolutions be forwarded to the family of the deceased as well as to the Minister of the United States resident at the capital of the German Empire, to be by him communicated through the legitimate channel to the presiding officer of the legislative body of which he was a member." This resolution was passed without criticism and was forwarded to our Minister to Germany, Mr. Sargent, and he laid it before Chancellor Bismarck as the proper person to carry it to the Reichstag. Taking offense at the clause which we have put in italics, the chancellor sent the resolution to the German minister at Washington, directing him to return it to the House of Representatives. In explanation Bismarck said: "Any recognition in a foreign country of the personal qualities of a German, especially when made by so important a body as the House of Representatives, is gratifying to our national feelings. I should have gratefully accepted the communication made by Minister Sargent, and should have asked the Emperor to empower me to present it to the Reichstag, if the resolution had not contained an opinion regarding the object and effect of Herr Lasker's political activity, which was opposed to my convictions. According to my experience of the political and economic development of the German people, I can not recognize the opinion as one which the events I have witnessed would justify. I should not venture to oppose my judgment to the opinion of such an illustrious body as the House of Representatives if I had not, by more than thirty years of active participation in the internal policy of Germany, gained an experience which justified me in attaching a certain value to my judgment in questions of home affairs." He further positively declined to ask the Emperor's permission to lay the matter before the Reichstag, and returned the resolution, which was handed back to the House by the Department of State, without comment, and was referred to the Committee on Foreign Relations. Meantime there had been quite an uproar in the German Reichstag on the matter, and a savage denunciation of Bismarck's

course by the Liberal members. The Chancellor therefore saw fit to make a defense of his action before that body. He declared his inability to agree with the opinion expressed in the resolution, and his unwillingness to act as his enemies' postman. He denounced those who made Herr Lasker's funeral ceremonies the occasion of political intrigues, and expressly disclaimed any intention to annoy America or disturb the cordial relations existing between Germany and that country. May 19, the Committee on Foreign Affairs reported to Congress further resolutions in the matter. After calling attention to the fact that the previous resolution was intended as a tribute of respect to the memory of an eminent statesman, these resolutions declare: "That the House, having no official concern with the relations between the executive and legislative branches of the German government, does not deem it requisite to criticise the manner of the reception of the resolutions, or the circumstances which prevented their reaching their destination after they had been communicated through the proper channels of the German government." Mr. Ochiltree, of Texas, the mover of the original resolutions, opposed that offered by the committee, and delivered a eulogy on Lasker together with severe strictures upon Bismarck. The resolutions, however, were finally adopted without a division. The House then adopted resolutions of friendship and sympathy with the Liberals of the German Reichstag. It was said that one reason why Prince Bismarck wished to rebuff the United States Government in this matter was that he had been greatly offended by Minister Sargent's criticism of his (Bismarck's) policy in excluding American pork. Our Government approved of Sargent's course, and did not wish to seem to censure him, but, as the Chancellor had taken offense, and it was of great importance that our relations with Germany should continue cordial, Minister Sargent was, on the ground of expediency, transferred to the mission at St. Petersburg. For personal reasons, this official declined the Russian position, though he recognized the desire of the Government to assure him of its approval, and returned to America.

#### ARTIFICIAL RAINBOWS.

Owosso, Mich.

How and when have artificial rainbows been formed? Can any experimenter in philosophy make one?

INQUIRER.

*Answer.*—We believe that Professor Tyndall's experiments were the only ones that ever actually reproduced the rainbow of nature by means of artificial light. In the fall of 1883 this philosopher, after some time spent in the Alpine mountains, determined to reproduce in his laboratory the effects of light that he had there seen. His first object was to obtain artificially a mixture of fog and drizzle such as might most nearly resemble the atmosphere of the hills. We quote from his work his account of the experiment and its result. "A strong cylindrical copper boiler, sixteen inches high and twelve inches in diameter, was nearly filled with water and heated by gas-flames until steam of twenty pounds pressure was produced. A valve at the top of the boiler was then opened, when the steam issued violently into the atmos-



phere, carrying droplets of water mechanically along with it, and condensing above to droplets of a similar kind. A fair imitation of the Alpine atmosphere was thus produced. After a few tentative experiments, the luminous circle was brought into view, and, having once got hold of it, the next step was to enhance its intensity. Oil lamps, the lime-light, and the naked electric light were tried in succession, the source of rays being placed in one room, the boiler in another, while the observer stood, with his back to the light, between them. It is not, however, necessary to dwell upon these first experiments surpassed as they were by the arrangements subsequently adopted. My mode of proceeding was this: The electric light being placed in a camera with a condensing lens in front, the positions of the lens was so fixed as to produce a beam sufficiently broad to clasp the whole of my head, and leave an aureole of light around it. It being desirable to lessen as much as possible the foreign light entering the eye, the beam was received upon a distant blank surface, and it was easy to move the head until its shadow occupied the center of the illuminated area. To secure the best effect it was found necessary to stand close to the boiler, so as to be immersed in fog and drizzle. The fog, however, was soon discovered to be a mere nuisance. Instead of enhancing, it blurred the effect, and I therefore sought to abolish it. Allowing the steam to issue for a few seconds from the boiler, on closing the valve, the cloud rapidly melted away, leaving behind it a host of minute liquid spherules floating in the beam. A beautiful circular rainbow was instantly swept through the air in front of the observer. The primary bow was duly attended by its secondary, with the colors, as usual, reversed. The opening of the valve for a single second caused the bows to flash forth."

#### THE FRENCH ACADEMY,

Give a brief history of the French Academy, its work, and purpose.

ADA, OHIO,

R. N. SEYMOUR.

*Answer*—The French Academy is a society or club made up of forty of the most gifted as well as famous of the literary men of France. It had its origin in a literary coterie which held meetings in Paris during the time of Louis XIV, and it was Cardinal Richelieu that gave it its unity and purpose. His object was to have a fixed standard of grammar and rhetoric given to the language, believing that this would tend to the unification and peace of France. The duties which the great Cardinal imposed upon the members of the Academy were "to purify and fix the national tongue, to throw light upon its obscurities, to maintain its character and principles; and at their private meetings to keep this object in view. Their discussions were to turn on grammar, rhetoric and poetry; their critical observations on the beauties and defects of classical French authors, in order to prepare editions of their works and to compose a new dictionary of the French language." The Academy at present preserves little of its original character of a mere coterie of grammarians, and as for the dictionary, it is after all these years, not yet completed. The original Academy was

swept away in 1793. In 1803, Napoleon partially restored it, but not under its original name, which, however, was revived with the restoration of the Bourbons. This association meets at the Palace Mazarin, Paris. Its chief officer is its secretary, who has a life tenure of his position. He receives a salary of 12,000 francs, the society being allowed by the government 85,000 francs a year for the payment of its officers and the care of its library. The Academy is always to consist of forty members, all vacancies being filled by the votes of those already composing the body. To belong to it is regarded as a high honor, the members being spoken of as "the forty immortals." Ambitious authors, therefore employ much social diplomacy to secure the favor of members, and no doubt the choice of new academicians is often made on the basis of personal admiration or community of sentiment, rather than of pure merit. But for all this, no other mode of selection could probably be devised that would enable the body to sustain, decade after decade, the same character, purpose and standards.

#### FARMERS AND DEBT.

SAWYER'S BAR, Cal.

Since the free-trade message of the President was given to the country I have heard it asserted, as an argument in favor of free trade, that the farmers of the United States are not a prosperous class; that as a rule they are in debt and their farms incumbered, and that a protective tariff has brought them to this condition. Please give the facts in the case.

H. J. ELDBERGE.

*Answer*.—Farmers may be in debt, but so are three-fourths of all the private and corporate traders of the United States. Consider for a moment the billions of debt which the railways carry; how few merchants are out of debt; how great is the extent of the credit system. But the farmers are perhaps less dangerously in debt than the traders. In the well settled States debt, except on a small scale to the local traders, is an exceptional condition with the farmers. The percentage of mortgages in such States is light. In the Western States the farmers have borrowed money, not to live upon, but to improve the land owned by them or to purchase more land. Farmers in all new States go through this experience. But, and it is an important consideration, the land, which is the basis of the loan, is evidently increasing in value. If it were not so, capital would not be anxious to invest in farm loans; for capital dreads a falling market. But farm loans are a favorite investment. The farmer who is frugal and prudent is more likely to live to achieve independence of debt than the trader. For the rest, it matters not what is considered, the value of land, the value of farm buildings, the total outcome of farm produce, values and totals of profits have been steadily increasing, and are steadily increasing.

#### ONE HUNDRED AND SIXTEENTH ILLINOIS INFANTRY.

URRICHVILLE, Ohio.

Give a sketch of the One Hundred and Sixteenth Illinois Infantry.

L. G. M.

*Answer*.—The One Hundred and Sixteenth Illinois Infantry was recruited almost wholly from Macon County, and was mustered in at Decatur, Sept. 30, 1862. It was ordered South Nov. 8; went to Memphis, thence to the Mississippi, and down the river to the Yazoo, being under fire for the

first time at the battle of Chickasaw Bayou, Dec. 28, 1862. Its second battle was that of Arkansas Post, Jan. 10, 1863, in which it met with heavy loss. Jan. 22 the regiment landed at Young's Point, La., opposite Vicksburg, and assisted in digging the famous canal there; the location was very unhealthy, and over 100 members of the regiment died during the following two months. They were buried on the levee, this being the only ground high enough to serve as a grave-yard, but it has long since been swept away, and the bones of the patriot dead have been carried down to the gulf. In March the regiment took part in the expedition to rescue Admiral Porter's fleet, and when the advance on Vicksburg began it joined Grant's army, and was at the fights at Champion Hills and Black River Bridge, and did good service before Vicksburg, taking part in the assaults of May 18 and 22. It was in camp at Black River after the surrender, and in October went with Sherman to reinforce Grant before Chattanooga. The regiment formed the extreme left of Sherman's army in the great battle of Mission Ridge, Nov. 25, and after the fight was hurried to Knoxville to relieve Burnside. In May following the regiment joined the movement toward Atlanta, and was in nearly every battle of that memorable campaign. It also marched with Sherman to the sea, went to Washington to take part in the grand review, and was mustered out there June 7, 1865.

#### LATTER DAY SAINTS.

HUMISTON, IOWA.  
Give the points of belief of the "Latter Day Saints," or Mormons; also their plan of church government.

L. V. M.

*Answer.*—The points of belief of the Mormon Church have been somewhat altered since first received from Joseph Smith, that teacher having taught for instance, the dogma of a Trinity, while modern Mormonism holds that there is a duality of persons in the Godhead, the Holy Ghost being merely a spiritual soul. They also teach that God has parts resembling the body of man, and not materially differing from him in size. They deny the doctrine that "all men sinned in Adam," but accept the atonement through Christ for sins committed by men. They hold that the ordinances of the gospel are: (1), Faith in Christ; (2), Repentance; (3), Baptism by immersion for remission of sins; (4), Laying on of hands for the gift of the Holy Ghost. They believe that a man is called to preach by "prophecy and the laying on of hands," and claim to have the same organization in respect to teachers, that the primitive church held. They further hold a twofold priesthood, which they call the Melchisedek and the Aaronic; and they believe in a "baptism for the dead" that is, that a living person may save a dead friend by being immersed for him, unless he has committed the unpardonable sin. They believe that the gift of tongues, revelations, visions, etc., is still granted to men, and that many things are still to be revealed concerning the kingdom of God; they claim to hold the Bible to be the word of God, "as far as it is translated correctly," and also hold the Book of Mormon as the Word of God. They further believe in the literal gathering of Israel and in the restoration of the Ten Tribes, that Zion will be built upon this

continent; that Christ will reign personally upon this earth, and that the earth will be renewed and receive its paradisaical glory." The doctrine of polygamy was not a part of the original revelation of Mormonism, but was introduced later, and came to be not simply tolerated, but enjoined as a positive duty, a man's rank in heaven being alleged to be largely dependent on the number of his children. Children are taken into the church at the age of 8; never before. As to their church government, we are told that the hierarchy of the Mormon Church has many grades of offices and gifts. The first is the presidency of three persons, which is supposed by some to be modeled on the trinity in heaven, but more probably answers to Peter, James, and John in the early church. Next in order is the traveling high apostolic college of twelve apostles, after the primitive Church, who have the right to preside over affairs concerning the interests of the church in any foreign country, according to seniority; then come the high priests, priests, elders, bishops, teachers, and deacons, together with evangelists and missionaries of the "three seventies." Each order constitutes a full quorum for the discipline of its members, and transacting business belonging to its action; but appeals lie to higher orders, and the whole church is the final appellate court assembled in general council. A high council is selected from the high priests, and consists of twelve members, which is in perpetual session to advise the presidency, and in this council each is free to give and argue his opinion, but when the president gives a decision in any matter, each must yield obedience to it, even if it is opposed to the wishes of all.

#### THE BATTLE OF TICONDEROGA.

MCGAHEYVILLE, VA.

Give a brief account of the battle of Ticonderoga, with the size of the opposing armies and the loss in killed and wounded.

READER.

*Answer.*—The battle at Ticonderoga occurred during the French and Indian war. In 1758 this point was occupied by the Marquis de Montcalm with about 4,000 men, French and Indians. The expedition sent against the fort was commanded by General Abercrombie. In July, 1758, this officer had assembled about 7,000 regulars and nearly 9,000 provincial militia, with a heavy train of artillery, near the head of Lake George. His second in command was General Howe. The army moved down Lake George Sunday, July 5, in boats, and at dawn the next morning landed at the foot of the lake, about four miles from Ticonderoga. The whole country there was then a dense forest and tangled morass, and as they had no guides with them familiar with the country, the English officers became bewildered. While struggling to find their way out of the timber, the right column, led by Lord Howe, was suddenly attacked by a small French force, and a sharp skirmish ensued. This was repulsed, and a number of the men were taken prisoners, but Lord Howe had been killed at almost the first fire. General Abercrombie questioned the prisoners concerning the strength of the fortress and the number of men in the garrison, and on the strength of their account, decided to make an immediate attack upon the fort. When too late, however, he learned that he had been



deceived. He took the outer works of the fortress easily, but the inner defenses were guarded by abatis and thoroughly manned. Abercrombie ordered his troops to scale the works, but they were driven back. After a bloody conflict of four hours, the assailants were compelled to fall back to Lake George, leaving about 2,000 dead and wounded on the battle field. Abercrombie's ill-success in this movement caused his removal soon after, and he was succeeded by Sir Jeffrey Amherst, who took command of the forces in the spring of 1759. The new commander found 20,000 provincial troops at his disposal, and an additional force was sent from England to co-operate with the Americans both on land and sea. Three expeditions were arranged for, one under Wolfe to attack Quebec, one under Prideaux to take Fort Niagara, and the third under Amherst to seize Fort Ticonderoga. July 22, 1759, therefore, this commander appeared before the last named fortress with about 11,000 men. The French commander had just received intelligence through the Indians of the arrival of Wolfe before Quebec, and prepared to surrender without resistance. The garrison accordingly vacated their outer lines on the 23d, and retired within their fort, and three days later, without firing a shot they abandoned that also, partly demolished it and fled, first to Crown Point, then to the Isle au Noix in the Sorel. Amherst took possession of the works, pursued the retreating forces for a short distance, but made no real attempt to capture them. During the revolutionary war this fortress was taken by the Americans under Ethan Allen without firing a shot, but on the approach of Burgoyne, two years later, was evacuated without attempt at resistance.

#### FIRST OHIO INFANTRY.

Give as complete a history as possible of the First Ohio Volunteer Infantry. Give the names of the commanders and the corps to which the regiment belonged.

*Answer.*—The First Ohio was organized under President Lincoln's first call for troops in April, 1861. Its nucleus was found in militia companies, and so promptly was it formed that within sixty hours after the telegraph brought the President's call the cars were bearing the regiment to Washington. The First did not take part in the action at Bull Run, but did good service in covering the retreat there. Soon after it was sent home to be mustered out, but re-enlisted immediately for three years. Early in November following the regiment was ordered southward, and was placed with the Fourth Brigade of the Second Division, under General A. M. McCook—this latter officer having been the colonel of the First during its three months' service. On re-enlisting, Colonel B. F. Smith, a regular army officer, was placed in command of the regiment. The first time the men were under fire was at Shiloh, where they bore a gallant share in the action. The regiment was also at the siege of Corinth. General J. W. Sill was made brigade commander in August. The summer and fall were taken up in the pursuit of General Bragg, but the First did not join Buell's main army until two days after the battle of Perryville. At Stone River they

formed the right of Johnson's front line and did some hard fighting. Soon after this battle the army was reorganized, and the First Ohio was placed in the Second Division of the Twentieth Army Corps. It took part in the Tullahoma expedition, and when the Chickamauga expedition was begun, it was one of the foremost regiments in the moving army and lost heavily in the fight at Chickamauga. From the 1st of March, 1863, to the close of the campaign the First Ohio was commanded by Lieutenant Colonel Bassett Langdon. In the latter part of October the Twentieth Army Corps was consolidated with the Fourth Corps, and the regiment brigaded under General Hazen in the Third Division of that corps. The regiment was in front in the terrible fight of Mission Ridge, losing there five officers and seventy-eight men killed and wounded. Immediately after the fight the regiment was sent to re-enforce Burnside at Knoxville. In May, 1864, it started with Sherman's army on the Atlanta campaign, but after July 1, the time of the regiment being up, it was mustered out by companies, the last one being sent home Oct. 14, 1864.

#### FIFTEENTH OHIO INFANTRY.

Give a brief sketch of the Fifteenth Ohio Volunteer Infantry, when mustered into service, its number of battles, and losses in killed and wounded.

D. C. THURSTON.

*Answer.*—The Fifteenth Ohio Infantry was one of the first to respond to the President's call for 75,000 men for three months' service, and was organized May 4, 1861, at Camp Jackson, Columbus, Ohio, and was sent a few days later into West Virginia. It took part in several of the light engagements of this campaign, but was principally engaged in guard duty, and returned to its State at the close of its term of enlistment, having lost but one man in the field. On the call for three years' men the regiment re-enlisted, being mustered in the second time Sept. 26, 1861, and soon after was ordered to Lexington, Ky., and attached to General McCook's division. Its first baptism of fire was on the hard-fought field of Shiloh, where it was engaged for four hours on April 7, losing sixty-eight men in killed and wounded. During the summer the regiment was stationed at various points doing garrison duty and also for a time building a fort at the mouth of Battle Creek. In early fall it started southward in pursuit of Bragg. It did not come up with the main army at Perryville until after the battle, but it was heavily engaged at Stone River, losing 107 in killed and wounded. During 1863 it was in the advance on Tullahoma in July, and was at the battle of Chickamauga, where it lost heavily. It also bore its share in the arduous labors of the siege of Chattanooga, and took part in the brilliant assault on Mission Ridge, and after the fight was hurried with other forces to the relief of Knoxville. In January, 1864, the greater part of the regiment re-enlisted as veterans, had its furlough in February, and then returned to the front, and shared in the toil and danger of the Atlanta campaign. It was sent with the forces to attack Hood at Franklin, but did not take part in the battle. At Nashville, however, soon after, it had a prominent share in the fight. Thence it followed the enemy into Alabama, in March came

back into Tennessee, was at Nashville from May 1 until July, then was sent to Texas. It was stationed near Indianola for a few weeks, then marched to San Antonio, where it remained until sent North Nov. 24. The men were finally discharged Dec. 27, 1865.

#### FIFTEENTH ILLINOIS CAVALRY.

CAPE GIRARDEAU, Mo.  
Was there a regiment called the Fifteenth Illinois Cavalry? If so, give its history. W. WARLAKE.

*Answer.*—The Fifteenth Illinois Cavalry was organized in the early part of 1863, from a number of independent companies of cavalry and dragoons that had been previously attached to other regiments, chiefly infantry. Thus a company of cavalry was taken each from the Fifty-third and Fifty-second Regiments, two companies from the Thirty-sixth Regiment, one company from the First Cavalry, and to these were added a company known as the Kane County Cavalry, and these, with five companies known as Stewart's Battalion, made up the Fifteenth Cavalry Regiment. Stewart's Battalion, in the form of an organized band of cavalry, was raised in the latter part of 1861. It was with the army at Forts Henry and Donelson, and participated in the battle of Shiloh. The force was organized into a battalion at Jackson, Tenn., in June, and in November moved to Corinth for winter quarters. The order for consolidation was received in December, and early in the following year the Fifteenth Regiment was formed as above stated, with George A. Bacon as Colonel. Colonel Warren Stewart, whom the order of consolidation placed over the regiment, had been killed near Vicksburg Jan. 23. The regiment was engaged in scouting through Mississippi, Alabama, Kentucky and Tennessee, during the months of the summer and fall. In November was sent to Helena, Ark., where it did post duty, and had severe scouting experience through the swamps of Arkansas. As the majority of the members of the regiment were enlisted in 1861, these men were mustered out in August, 1864. The recruits who were enlisted in 1862 were consolidated with the Tenth Illinois Cavalry. Company I, of the Fifteenth Cavalry was sent to Louisiana in September, 1863, and was engaged in that State in scouting expeditions until January, 1864. At that date the majority of the company re-enlisted as veterans, were furloughed, and after the disbanding of the other companies were transferred to the Tenth Cavalry.

#### LIBRARIES IN THE UNITED STATES.

Owosso, Mich.  
How many large libraries were there in the United States 70 years ago and how many are there here now? R. U.

*Answer.*—There were, previous to the Revolutionary War, only five public libraries in all the colonies, outside of the libraries of colleges. Two of these were in Philadelphia, the "Library Company of Philadelphia," founded in 1731, and the "American Philosophical Society," in 1742. There were also the "Library Society," Charleston, S. C., established 1748; Athenaeum, Providence, R. I., 1753, and "Society Library," New York, founded in 1754. There are now, according to recently completed statistics, 5,338 public libraries in the United States, each containing 300 volumes and upward, these including all the libraries of colleges and

academies. Three hundred and eighty-six libraries on this list have 10,000 volumes each and upward, 268 being libraries that are free to the public under certain necessary restrictions, and 118 charge a subscription fee for their privileges. Of the 10,000-volume libraries, 120 are libraries of schools and colleges, and 266 are libraries belonging to States, cities, or societies. There are eleven libraries in the United States having over 100,000 volumes each.

#### WASHINGTON AND SLAVERY.

WOODLAWN, Mo.  
Give some facts concerning the position of Washington on the slavery question in the United States, quoting from his speeches, etc. J. M. BURNHAM.

*Answer.*—Washington, we understand, held two views of the slavery question. As a man, he thoroughly disapproved of it; but as a statesman and a citizen of a State wherein the institution was established, and of a federation, part of whose States accepted and part rejected the institution, he considered it advisable that it should be sanctioned, if not protected, by the central government. He favored the compromises of the Constitution by which the abolition of the slave trade was secured, while the return of fugitive slaves was provided for, since he saw that no federation could be formed unless concessions could be secured from both slave-holding and non-slave-holding States, and he rightly regarded the political union of the States as of far greater value at that time than the satisfaction of any individual opinions on the subject of slavery. So, too, when the fugitive-slave law of 1793 was passed by Congress, it was approved by Washington, for this law was then regarded as necessary to insure the execution of the fugitive-slave clause in the Constitution. Still, Washington personally disapproved of slavery, and proved this by making full provision in his will for the emancipation of the slaves on his estate. He had, it is said, wished to do this before, but it was somewhat difficult to carry out the plan, as the slaves on his property had intermarried with those belonging to the estate of his wife. Over these he had no authority, as they would legally pass into the possession of the Custis children. In a letter to a friend, in 1783, Washington wrote: "The scheme which you propose as a precedent to encourage the emancipation of the black people in this country from the state of bondage in which they are held, is a striking evidence of the benevolence of your heart. I shall be happy to join you in so laudable a work. \* \* \* There is not a man living who wishes more sincerely than I do to see a plan adopted for the abolition of slavery. But there is only one proper and effectual mode by which it can be accomplished, and that is by legislative authority. This, so far as my suffrage will go, will never be wanting. To set the slaves afloat at once would, I believe, be productive of much inconvenience and mischief, but by degrees it certainly might, and assuredly ought to be effected." In 1786 Washington wrote: "I never mean, unless some particular circumstances should compel me to it, to possess another slave by purchase, it being among my first wishes to see some plan adopted by which slavery in this country may be abolished by law." In 1797 he wrote to Lawrence Lewis, his sister's son, that he



wished from his soul that Virginia could see some way for the gradual emancipation of the slaves within her territory, believing that it might prevent much future mischief. In this subsequent events showed that he judged rightly, but it is certain that though Washington earnestly desired the emancipation of the slaves, he believed that this should be carried out by forms of law, and that it should not be left to the irregular methods of sectional agitators.

#### ENAMELLING IRON.

CATAWISSA, Mich.

Give the process by which enamel is laid on iron.  
INQUIRER.

*Answer.*—Enamel is a vitreous substance which can be applied in a thin stratum to any smooth metallic surface, on which it is fused by the flame of a lamp, urged by the blow-pipe, or by the heat of a small furnace. The base of all enamels is a transparent and fusible glass, which readily unites with other substances. It can be colored in various tints by the use of metallic oxides. To prepare iron for enamelling it should be first carefully cleaned by scouring with sand and diluted sulphuric acid, next a somewhat thick magma or mineral paste, made of pulverized quartz, borax, feldspar, kaolin and water, is brushed over the clean metallic surface as evenly as possible, and immediately after a finely powdered mixture of the enamel constituents is thickly laid over, and this exposed to the fusing heat of a furnace. It becomes strongly adherent to the iron surface in its molten state, and cools with a perfectly smooth, glassy surface. There are various formulæ for the enamel coating. One of the most simple consists of 130 parts of flint glass, 20½ parts of carbonate of soda, and 12 parts of boric acid fused together and afterward ground to a fine powder.

#### EIGHTH OHIO INFANTRY.

LEE, Ill.

Give us a brief sketch of the Eighth Ohio Infantry.  
A. A. HANCHETT.

*Answer.*—The Eighth Ohio was first organized as a three-months regiment, under the first call of the President, and all the men were enlisted previous to the end of April, 1861, but before it was sent to the field nine of the companies had re-enlisted, and the regiment was mustered into the service for three years June 26, 1861, and in July was sent to Virginia, where it was attached to General McClellan's army. It was engaged in various skirmishes and minor fights, but its first experience of a serious battle was at Winchester, March 23, 1862. There four of the companies were in the very heart of the fight, and left over one-fourth of their number among the dead and wounded on the field. The other companies were deployed as skirmishers. The regiment was engaged in skirmishing at various points in the Shenandoah Valley, until the last week in June, when it was sent to join the army of the Potomac in the Chickahominy swamps. It was with the rear guard during the retreat from Harrison's Landing, and then was sent forward to join Pope's army, but did not reach the field in time to take any part in the Manassas fight. It did gallant service, however, at Antietam, Sept. 16 and 17, and after this moved with the army to Falmouth. In

the terrible battle of Fredericksburg, Dec. 13, the Eighth formed the right wing of the forlorn hope. After the fight the regiment remained in camp until April 28, 1863, when it crossed the river to take part in the battle of Chancellorsville. It also bore a conspicuous part in the battle of Gettysburg, losing on that bloody field 102 in killed and wounded. In August the regiment was sent to New York City to aid in quelling the riots there, returning, joined the army at Culpeper. It took part, in the following spring, in the fights at the Wilderness, Spottsylvania, North Anna, Cold Harbor, and in front of Petersburg. In June, its term of service having expired, the Eighth was sent home, and formally mustered out July 16, 1864.

#### ROBURITE.

OHIO, Ill.

Describe the new explosive, roburite. Who discovered it, of what is it made, and what are its advantages over other explosives?  
M. S. S.

*Answer.*—Roburite is a recent chemical invention. It was first made by Dr. Carl Roth, an eminent German chemist. The constituent parts of this explosive have not yet been made public, but it is stated to be a mixture of substances neither of which when separated from the other possesses explosive properties. They are so entirely harmless that they can be transported without any danger whatever. Roburite, when made, is a coarse granular substance, resembling yellow sugar. It is a very safe explosive for use, as there is not a constant danger of explosion in handling it. Neither percussion, friction, nor the application of flame or heat will cause it to explode. This can only be effected by using a detonator charged with fulminate of mercury. The strength of the explosive does not deteriorate by keeping, and if it is wet it can be readily restored by drying. It is especially adapted for use in blasting in mines, as the explosion, causing neither spark nor flame, can not ignite fire-damp or coal dust. The explosion produces little or no gas, so that the miners, resuming work after the blast, are not inconvenienced. Roburite can also be used in bombshells, as it would stand the concussion of the discharge of the gun. As an explosive it is, in some respects, more powerful than dynamite or gun cotton, and as it is said to be cheaply and easily made, it will probably take the place of these explosives in mining and in offensive and defensive warfare.

#### TIMBER FOR RAILROAD TIES.

MELTON, Iowa.

Was there not a statement made by some statistician not long since concerning the amount of timber used annually for railroad ties? Can Our Curiosity Shop give the approximate figures of that statement?  
INQUIRER.

*Answer.*—About a year since there was a government report published concerning the amount of forests needed to supply our railroads with ties. The report stated that it was based on returns obtained from 63 per cent of the roads, and on an estimate of 150,000 miles of railroad in the country. This report states that, allowing the ties to be renewed once in seven years, there will be required for this purpose and for the supply of new roads from year to year, the timber from 565,714 acres. As thirty years will be necessary to

renew the growth, this report advocated the setting aside, as a "railroad reserve," of a tract of woodland embracing 16,971,420 acres, to supply the necessary timber for ties—or an area larger than Vermont, New Hampshire, and Massachusetts combined.

#### WOOL PRODUCTION IN THE UNITED STATES.

CHICAGO.

Give figures showing the production of wool in the most important wool growing States in the Union. Which State leads in this production? Give figures for the total of sheep in the United States, and pounds of wool produced. INQUIRER.

*Answer.*—The figures given below are from the United States Census report of 1880. This gives the sheep and wool for the twelve most important wool growing States, as follows:

State.	Number sheep.	Pounds wool.
Ohio.....	4,902,486	25,003,756
California.....	4,152,349	16,798,036
Michigan.....	2,189,389	11,858,497
New York.....	1,715,180	8,827,195
Pennsylvania.....	1,776,598	8,470,273
Missouri.....	1,411,298	7,313,924
Wisconsin.....	1,336,807	7,016,491
Texas.....	2,411,633	6,928,019
Indiana.....	1,100,511	6,167,498
Illinois.....	1,037,073	6,093,066
Oregon.....	1,083,162	5,718,524
Kentucky.....	1,000,269	4,592,576

The aggregate number of sheep in all the States and Territories, as shown by the census of 1880, was 35,192,074; the total of wool production was 240,681,751 pounds.

#### THE SUN'S HEAT.

MADISON, Wis.

Give a synopsis of the present accepted theory of the sun's heat, its nature and origin? R. L. MANN.

*Answer.*—The first theory of astronomers concerning the central orb of our system imagined it to be a mass of fire. The next theory supposed it to be made up of an outer envelope or photosphere of fiery vapors, surrounding a central solid body. The theory now regarded as most tenable, however, is that the sun is a mass of red-hot fluid, and this last hypothesis has been accepted as the only one which can be adequately reasoned out, with reference to the probable beginning and continuance of the sun's energy. Originally, it is supposed, the heat of the sun was generated by the collision of bodies or pieces of matter attracted to each other by gravitation. The arrested motion in this impact became transmitted into heat intense enough to fuse the solid constituents of these bodies into a fluid mass, not only incandescent, but in a state of violent agitation. Since its formation this fluid mass has been cooling by shrinkage, but at a rate thus far inappreciable by the computations of man, since the shrinkage itself tends to renew the heat of the mass. Enormous convection currents through the mass are continually maintained, because fluid which has become slightly cooled by radiation is always falling below the surface, and hotter fluid is rushing up to take its place. It is computed that the work done in any time by the mutual gravitation of all the parts of the sun's substance as it shrinks in virtue of the lowering of its temperature is practically equal to the heat radiated from the sun in the same time. This process is, of course, practically limited—that is, this continued contraction must increase the

density of the sun and lessen its contractile power, and in time more heat being radiated from the sun's surface than is created by shrinkage, the sun must become so imperfect a source of warmth that it can not continue to support life on its attendant planets. But considering how brief a time man has existed on this planet, and how improbable it is that its resources will support him here more than a million years or so, we need not trouble ourselves much about the cooling off of the sun. In 200,000 years the diameter of the orb is only lessened by one two-hundredths, and the limit of its power to sustain vegetable and animal life upon the earth is estimated at not less than about 10,000,000 years.

#### THE CULTIVATION OF MUSHROOMS.

WHEATON, Ill.

Tell how mushrooms are cultivated, their mode of propagation, etc. J. J. SMITH.

*Answer.*—Mushrooms can only be propagated by indirect methods. That is, they yield no seed, but soil or compost in which they have grown is usually filled with the spores of this fungus, and will develop them if placed in favorable conditions. In the neighborhood of Paris immense caves and cellars are given up to the culture of mushrooms. Tons of the fungi are raised here, and, put up in hermetically sealed cans, are used to supply the tables of epicures the world over. Fresh mushrooms are by no means easy to obtain in the markets of the new world. When our people have learned the excellent quality of this food substance it will not be regarded as so difficult a work to raise them. Mushrooms may be cultivated in hot-houses or cellars. They do not need light, nor excessive heat, but an even temperature of about 75 degrees. The bed should be made upon the earth, and a foundation of old coarse manure, with bedding straw or leaves, to the depth of about three inches, should be laid, this should be well-watered and not again disturbed. Cover one-seventh of the space of this layer with compost, in proportion of two-thirds of freshly-dropped horse manure free from straw, and the remaining third in equal proportions of cow manure (not fresh) and rich, moist, garden loam. These elements should be thoroughly mixed, and to insure this, all should be well stirred together and then passed through a coarse sieve, such as is used for sand or coal screenings. After mixing place a plank on the bed, and stamp it down solid, it should be then about eighteen inches thick. Its temperature will rise at once to about 150 Fahr. The upper layer of compost must be turned every day for a week, for it is not advisable that the mass should ferment, and after this, the temperature will decline, and in a few days it will be ready for the planting. To test it, thrust a blunt stick into the mass, as soon as it has been withdrawn thrust a thermometer into the hole, and when this shows an even temperature in several places of 90 degrees F., the spawn, as it is called, may be put into the bed. Spawn is simply earth or compost in which mushrooms have been grown. It is sometimes dried in bricks and in this form is sold in the seed stores, but if it can be obtained fresh so much the better. If the fresh or virgin spawn can be obtained in abundance, cut it in



large pieces about six inches square, and when the mushroom bed stands at a temperature of 90 degrees F. insert them, with their tops at a level with the surface of the bed, nearly two feet apart. If, however, the brick spawn must be used from necessity or economy, let the temperature of the bed fall to about 70 degrees F., then insert in pieces the size of a large apple, in holes about three inches deep and eight inches apart. After the bed has been spawned, cover it with two inches of lightly laid damp loam, then leave it undisturbed for about six weeks, when the small button heads of the mushroom ought to appear. As mushroom beds do not give a continuous crop—only bearing twice in the year—it is wise to make only one-seventh of the bed at first, as suggested, then each week pack another equal space with compost in the same way, and so on; thus a consecutive crop of seven weeks each in the spring and fall are secured. It is of no use to water mushrooms as other plants are watered, as what they need is steam or spray. In the hot-house this is gained by the evaporation following upon watering the other plants with the hose. Where steam is used in heating the hot-house, it is generally quite possible to arrange for its condensation over and around the mushroom bed, and thus overcome the greatest difficulty in the culture of this fungus.

#### SEVENTY-SEVENTH OHIO INFANTRY.

REEDY, W. Va.  
Give a brief sketch of the Seventy-seventh Ohio Infantry, giving names of its colonels, its general and division commander.  
J. A. HOUSE.

*Answer.*—The Seventy-seventh Ohio Infantry was organized at Marietta, Ohio, in the fall of 1861, with Jesse Hildebrand as Colonel. Sent southward in February, it was assigned to Sherman's division of Grant's army, and was in the Third Brigade, Colonel Hildebrand being placed as brigade commander. Soon after the fight at Shiloh, in which the regiment took an important part, William B. Mason was commissioned as its colonel. The loss of the regiment in killed, wounded and missing at Shiloh was 220. It took part in the siege of Corinth, and in June was with an expedition sent into Northern Mississippi. In August it was ordered to Alton, Ill., to take charge of the military prison there, where it remained nearly a year. Early in August, 1863, it rejoined the force at Helena, Ark., and was assigned to the Third Brigade, Third Division, under command of General Fred Steele. It participated in all the movements of General Steele's army until December, 1863, during which month the men re-enlisted as veterans and were sent home on furlough. The regiment rendezvoused at Camp Dennison again March 1, went south to Little Rock, thence to Shreveport, La. At the fight at Marks' Mills, when the Seventy-seventh, with two other regiments, was attacked while escorting a supply train, the Union troops were overpowered and nearly all taken prisoners. They were imprisoned at Camp Ford, near Tyler, Texas, where they were kept until their exchange in February, 1865. The Seventy-seventh was then transferred to the Army of the Gulf, and with General Steele, under General Canby, it took

part in the expedition ending with the capture of Mobile. It then went to the Rio Grande, and was on duty camped near Brownsville, Texas, from Aug. 1, 1865, to March 8, 1866. It was mustered out of service March 8, and left on the same day for Columbus, Ohio, where the men were paid off and discharged. The Seventy-seventh enlisted and had on its rolls during its long term of service, 1,900 men.

#### THE MIND CURE.

CONDIT, Ohio.  
Explain in Our Curiosity Shop what the mind cure really is.  
READER.

*Answer.*—The mind cure, otherwise known, in its various subdivisions, as metaphysics, Christian science, mental science, etc., is a species of delusion quite popular at the present time. Every era of the world has cherished similar delusions, for the mass of the human race, even in what are considered the educated classes, are so unfamiliar with the processes of exact reasoning that they fall a ready prey to quacks of all kinds. The fundamental idea of the mind-cure system is that there is no such thing as sickness. Disease, says one of their apostles, is an error of the mind, the result of fear. Fear is only faith inverted and perverted. God, who is all good himself, and who made everything good, can not have been the author of any disease. As disease, therefore, is not a creation, it has no existence, and when the healer has succeeded in impressing this fact upon the mind of the patient, the cure is effected. It is curious to note into what utter absurdities the need for consistency carries these apostles. Poisons, they say, would be quite harmless if the fear of them was removed, but we have yet to find the "mental science" (?) teacher who will undertake to prove this by herself taking liberal doses of aconite and strychnine. The illnesses of children are explained by the hypothesis of hereditary fear. The majority of the teachers of this new faith are women, many of whom, no doubt, are sincere in their belief; but it may be safely stated that the men engaged as the so-called physicians of the new practice are, with few exceptions, unprincipled quacks, who have gone into the business for the money they can make by duping the ignorant. As far as there is any truth underlying the vagaries of mind curers, and their boasts of remarkable cases of healing, it may be admitted that the mind has much influence over the body. This fact has been recognized by intelligent physicians for centuries. And that the peculiar modern type of nervous diseases, which are so largely caused by excessive stimulus of the nerves and the imagination, should be amenable to cure through the imagination, is not strange. It will be noted that this mental cure has effected its miracles mainly among women, where it has the emotional temperament to work on, and almost wholly in the ranks of the wealthy and well-to-do, where there is little or no impoverishment of the system by insufficient food and excessive toil to hinder its effects. We have not heard, nor are we likely to hear, of an epidemic disease checked by the mind cure, or of the healing of acute affections or organic troubles through its agency. Nor

do we hear of its seeking to carry its message of healing into the houses of the suffering poor in large cities, where hunger, exposure and foul airs open wide the door to fevers and all deadly diseases, nor yet into hospitals for contagious or incurable affections. In the presence of such realities it would prove, as its votaries probably understand, a too-painful mockery. Intelligently analyzed, therefore, this new revelation amounts to nothing more than a quite striking proof of the remarkable influence of the mind over the nervous system. Beyond this the craze, in attempting to disprove the existence of disease, and to show that poisons do not kill, is simply running against the plain and inevitable facts of life, and can safely be left to perish through its own rashness.

#### EASTER EGGS.

CHICAGO.

Tell us something about the connection of eggs with Easter Day. Why are they colored to celebrate the day, and what is the origin of the story of rabbit's eggs? F. P. C.

*Answer.*—It is not altogether easy to establish the connection between eggs and Easter Day, as we have a number of superstitions to choose from. The Persians, for instance, used eggs as a New Year's gift, as symbolizing fecundity and prosperity. The Romans had egg games in honor of Castor and Pollux, who were said to have been hatched from an egg of the swan Leda. A race-course was laid out in the form of an oval, and decorated eggs were given as prizes to the victors. As the new year, with the Romans, began at Easter, nothing was easier than to transfer the egg custom from the Pagan to the Christian festival. Furthermore, eggs formed a part of the Passover feast of the Jews, being put on the table, we are told, "in honor of the bird ziz," a fowl holding as important a part in the rabbinical legends as the roe does in the tales of the Orient. It is quite possible, however, that our modern Easter eggs had no such far-fetched beginning. In the fourth century the eating of eggs during Lent was first forbidden. But as the unorthodox hens continued to lay, there was naturally a large accumulation of eggs by the close of Lent. On Easter Day, then, they formed the first "flesh food" eaten, and they were set out in great platters upon the tables. As the appetite was soon cloyed upon them, and they were so plenteous, the suggestion probably followed to give them to the children to play with, for which purpose, of course, it was necessary to boil them hard. The simple fact of the plenteousness of the eggs at these medieval Easters seems to account readily enough for the fancy for decorating them, giving them away, or using them for sports. Later came in the emblematic idea, which accepted the egg as an emblem of the resurrection. The custom became very popular in Europe and continued to modern times. In France, eggs gilded and painted were brought as tribute to the King in heaped baskets, and after being blessed by the chaplain or bishop they were distributed. The decorated eggs, filling the toy-shops, and hawked about in the streets, are now one of the sights of Paris in Easter week, and everybody gives everybody else an egg or a picture of an egg in honor of

the occasion. In Russia Easter Day is called day, as New Year's Day with us, and each swain who sallies forth has his pockets full of hard-boiled eggs. Meeting a friend, he salutes him after the manner of the early Christians: "Christ is risen!" To which the reply is made: "He is risen, indeed!" Then the two exchange eggs, and usually rub their beards together in token of good will. Ladies who "receive" have platters of gaily colored eggs to give away, and always a kiss can be claimed with the exchange of eggs, if either party desires. In Scotland, where Easter proper has been suppressed for centuries, Easter Monday is unfailingly celebrated among the young people by rolling hard-boiled eggs down hill. In England and in the continental countries for centuries a feature of the same day has been ball playing with eggs, the hardest and the toughest one proving the winner of the game. In the villages of the continent another old custom was to scatter a number of eggs on the village green, when the young couples would dance among them, and if any pair concluded the figures without stepping upon an egg they were to be regarded as affianced. This custom once brought about a very happy royal marriage between Philibert the Handsome, King of Savoy, and the fair Marguerite of Austria, who successfully performed the egg dance at Bresse on Easter Day, 1501, and were married the same year. The absurd fiction which connects the rabbit or hare with Easter eggs comes from a German nursery tale, and originated, no doubt, in the desire of some parent or nurse to hoax the children as to the origin of their favorite Easter eggs. Children in Germany and the Netherlands implicitly believe that this little animal becomes oviparous at the Easter season for their amusement. One of their favorite toys represents "brer rabbit" seated on a dish of eggs, and when the children see him running through field and meadow, they call out: "Hare, good little hare, scamper away, and lay plenty of eggs for Easter Day."

#### LORD WOLSELEY.

ROMEO, Mich.  
Give a sketch of the life of the British General, Lord Wolseley. Did he visit this country during the war for the purpose of offering aid to the Southern Confederacy? L. T. ROWAN.

*Answer.*—General Lord Wolseley was born near Dublin, Ireland, June 4, 1833. His father was a major in the British army. Young Wolseley entered the army in 1852, and served in the Burmese war of that year, in the Crimea in 1854, in India in 1857-59, and in China in 1860. He was a gallant soldier, and as an officer displayed marked ability. In 1861, when it seemed possible that a war between Great Britain and the United States might grow out of the Trent affair, Wolseley was sent to Canada in command of troops to be stationed there in readiness for any difficulty. In August, 1862, he proceeded, on leave of absence, to Richmond, the headquarters of the Confederate army. In doing this he ran no little risk, as the Federal lines were closely watched for British emissaries. In *Blackwood's Magazine* for January, 1863, may be found his own description of his "month's visit to the Confederate headquarters." It is not prob-



able that he was commissioned by his government to make any proposition to the Confederacy; indeed, his own account seems to show that the trip was made mainly to ascertain the strength and animus of the Confederacy, and partly through a desire for adventure. During and after the war he was stationed in Canada to repel the threatened Fenian invasion. In 1869 the sovereign rights of the Hudson Bay Company, derived from Charles II., were bought by the Canadian government. The people of the Red River Territory, now Manitoba, resented the transfer, in which their wishes were not consulted, and under Louis Reil set up an insurrectionary government as the "Republic of the Northwest." Colonel Wolseley was sent, in 1870, to suppress this government. His success in conveying his troops from Thunder Bay, on Lake Superior, to Fort Garry via the Winnipeg River with its thirty portages in 160 miles, added to his fame. For his services in the Red River country he was knighted. In 1873-74 he commanded an expedition of even greater danger and difficulty in Ashantee, on the Gold Coast of Africa, and thereby won promotion to a major-generalship. After this he was sent to Natal, then to India, and, in 1878, to organize the government of the newly acquired island of Cyprus. In 1879, after the Zulu war, he was sent to reconstruct that country, and while there conducted a war against the native chief Secocoeni. He commanded the army sent to Egypt to overthrow Arabi Bey's rebellion, and for his brilliant victory at Tell-el-Kebir he was raised to the peerage and gazetted full general in the army. In 1884 he was intrusted with the relief expedition sent to Khartoum to rescue General Gordon. This met with many difficulties. General Gordon was killed before it reached him, and the mortality among the European soldiery caused the conquest of the Soudan to be abandoned. Lord Wolseley has written several books on military and other subjects.

#### WHAT IS A "CARAT"?

Please explain and give the origin of the word carat, both as used with reference to precious stones and to gold. CREGO, Ind.  
M. R. SEWELL.

*Answer.*—The dictionary derives the word carat from the Greek keraton, a little horn, which name was given to the little horn-shaped seed of the carob tree, and says that the Arabians borrowed the word from the Greeks. But it is also said that in the country of the Shangallas, in South Africa, where precious stones and gold have been found from time immemorial, the natives have been accustomed to use as weights the seeds of the *Erythrina corallodendron*, from their almost precise similarity and equal weight when dried. The native word for the seed is said to be karat. From Africa it passed to India, and from a gold weight became used for precious stones, and, divided into four grains, was early common to all the countries trafficking with India. There are certain noticeable differences between the carat of different countries; between the carat, for instance, of a jeweler in Italy and a jeweler in India. That is only to be expected, considering the rather chance nature of the weight; but what seems strange is the fact that down to 1877 there was a variation even

among the Paris jewelers, until in that year, it was decided that the carat should correspond exactly to 205 milligrammes, or about three and one-half grains. It may be noted that in weighing diamonds the value increases as the square of the weight; that is to say, a stone double the weight of another has four times the value; treble the weight, nine times the value; ten times the weight, a hundred times the value. The use of the word carat with reference to the fineness of gold has quite a different meaning now, but no doubt it originally was directly derived from the weight of this same little bean. It now signifies the twenty-fourth part, and determines the fineness of gold proportionately. That is, the entire mass of gold is estimated as divided into twenty-four equal parts, and said to be so many carats, according to the number of the twenty-fourths of the pure metal, as, for instance, gold of eighteen carats is eighteen-twenty-fourths pure gold. and so on.

#### THE FIRST PRINTING PRESS.

KASOTA, Minn.  
When was the first printing press invented and by whom? Describe it. When did steam presses first come into use? When was steam power discovered? H. E. POTTER.

*Answer.*—The Chinese were acquainted with the art of printing from engraved blocks, long before the same art came into use in Europe. They used no presses, however, as they secured impressions merely by rubbing with a hard brush the back of the paper to be printed. In printing from movable types with stiff ink, however, some power was needed to secure an impression, and there is abundant evidence to show that Guttenberg, the inventor of movable types, was the first to construct a press to print from them, and that he considered it an essential part of his invention of printing. This first press was of very rude construction, and was, indeed, merely a slight modification of the press for making cheese, or extracting wine from grapes, which had existed from the earliest times. It was simply a block which, by means of a screw, was made to press very tightly upon the surface beneath. The first real improvement in these rude presses was made by William Jansen Blaew, a Hollander, about 1620. Its most important features are thus described: The carriage holding the form was wound below the point of pressure, which was given by moving a handle attached to a screw hanging on a beam having a spring, which spring caused the screw to fly back as soon as the impression was given. This continued to be the best press in use until the opening of the nineteenth century, when some efforts began to be made toward the improvement of presses, one of the important features being in the substitution of iron for wood in their construction. One of the most successful of these was the Columbian press, invented by George Clymer, of Philadelphia. At nearly the same time Earl Stanhope, of England, invented a press known as the Stanhope press, which, though not as perfect as the Columbian, was very successful, and became very largely used. Power printing presses were probably never thought of until after the beginning of the present century. The power press was the invention of Frederick Koenig, a native of Prussian Saxony.

He went to England in 1806, and finding it difficult to get work as a printer he labored with unfailing energy at his invention. The model was patented in 1810, and the first power press was completed in April, 1811. Koenig continued to improve his invention, and made the first cylinder press in 1814, and the first newspaper printed on a press of this kind was the issue of the *London Times* for Nov. 29, 1814. Koenig's invention was improved by Napier a London press manufacturer, and still further by another skillful worker, Applegath, who supplied the *London Times* in 1827 with a four-cylinder printing press. This was capable of printing from one form over 4,000 sheets per hour, wonderful speed for those days, as Koenig's first power press could print but 800 an hour, but the latter was speed compared to 300 sheets an hour, which was the best work attainable on a hand-press. In this country the first power press was manufactured by Dow, in Boston, for Daniel Treadwell. The latter had patented in England, in 1820, a press worked by a treadle, which was manufactured for him by Napier, and returning a few years later to the United States, he brought with him plans of the original Napier press, from which Dow manufactured a number of working presses. But the printers of that day did not approve of innovations, and Mr. Treadwell could not sell his presses. He then established a printing office, running the presses by horse power, but it was burned down, probably by hand pressmen, who were intensely hostile to his invention, but he subsequently established another office, in which the presses were run by water power. But the invention of the power press led almost immediately to the application of steam, the most readily handled power, to printing. For newspapers of large circulation now the cylinder has been superseded by the rotary or type-revolving press, in which the form is placed upon a portion of the circumference of a large drum or cylinder. The impression is given by smaller cylinders, to which the paper is fed, each having its own inking apparatus. As many as twelve of these impression cylinders are used on large presses, each revolution of the drum working off twelve sheets of the paper. The idea of this rotary machine was suggested by Koenig in England as early as 1815, but was first put in practical use by Richard M. Hoe, of New York, in 1847. This machine has been adopted by nearly all the leading daily American newspapers and by some in the large cities of the Old World. For account of the beginnings of the steam engine see *Our Curiosity Shop Book for 1884*.

#### THE ASTEROIDS.

AUGUSTA, Ill.

What is known about the asteroids? How many of them are there?

S. WEST.

*Answer.*—The asteroids are a ring of small planets traveling between the orbits of Mars, and Jupiter. It had been noticed that no law of planetary distances would account for the disparity between the distance separating the orbits of the earth and Mars, and that between the paths of Mars and Jupiter. Consequently, astronomers were led to search for another planet in this space, and Jan. 1, 1801, a small orb was discovered there by Piazzi, who called it Ceres. Between that date and 1845, five of these small planets had been dis-

covered, and since that time, many more have been found, sometimes ten or twelve in a single year, all very small, but traveling in well-defined orbits in the space between the orbits of Jupiter and Mars. By October, 1885, the number of small planets that had been discovered in the zone of asteroids amounted to 252, and this total has no doubt been increased since then. As to the theories of the origin of the asteroids, it was supposed by those astronomers who first investigated the subject that they were pieces of a planet which had exploded. Later studies of the motions of these small bodies, however, have led to the theory that the asteroidal zone has been formed from scattered cosmical matter traveling around the sun under the perturbing influence of the planet Jupiter. It is estimated that the combined mass of all the asteroids that have been discovered probably falls considerably short of one-fourth of the mass of the earth.

#### THE ORDINANCE OF 1787.

CABLE, Ohio.

Give some account of the adoption of the ordinance of 1787, its upholders, and its provisions.

READER.

*Answer.*—The most serious question brought before the Continental Congress after the close of the Revolution—second to the ever-insoluble one of how the public debt was to be paid—was that concerning the disposition of the vast extent of unoccupied lands at the West. The charters of the large States on the Atlantic coast extended their territory westward to the "South Sea," and over this they claimed to exercise full jurisdiction. In 1780 New York offered to cede part of its western territory for the formation of new States, and two years later Virginia made a similar concession. In 1784 an ordinance for the temporary government of the northwest territory was passed by Congress. This ordinance was drawn up by a committee of which Thomas Jefferson was chairman, and is known to have been mainly the work of the fruitful brain that devised the Declaration of Independence. It recommended that all the western territory, ceded or to be ceded be formed into nine States, each extending over two degrees of latitude, the said States to be named: Chersonesus, Sylvania, Assenisipia, Metropotamia, Polypotamia, Pellisipia, Saratoga, Washington, Michigan, and Illinois. It further provided that, after the year 1800, slavery should be prohibited in all of these States. The anti-slavery clause was lost and some other changes were made in the act before it was finally adopted. It was not, however, wholly satisfactory, and further legislation was attempted. In 1787 Nathan Dane, as chairman of a second committee on the Territories, reported an ordinance, which was adopted. This provided for the organization of the Northwest Territory, and concluded with six unalterable articles, of perpetual compact. The first provided for entire religious freedom; the second secured to all the inhabitants trial by jury, the writ of habeas corpus, and the political rights and privileges enumerated in the "Bill of Rights;" the third provided for the encouragement of schools, and for good faith, justice, and humanity toward the Indians; and the sixth provided that "there shall be neither slavery nor involuntary servi-



tude in the said Territory, otherwise than in the punishment of crimes whereof the party shall have been duly convicted." The opposition that had previously overthrown this anti-slavery provision was placated by the following stipulation: "Provided always, that any person escaping into the same from whom labor or service is lawfully claimed in any one of the original States, such fugitive may be lawfully re-claimed and conveyed to the person claiming his or her labor or service aforesaid." This was the original fugitive slave law, and its passage represents the concession made by the anti-slavery men to secure the consent of their opponents to the ordinance of 1787. Another important clause in the ordinance was one providing "that the navigable waters leading into the Mississippi and St. Lawrence, and the carrying places between the same, should be common highways free to the citizens of the United States." The authorship of this important ordinance has been usually ascribed to Mr. Dane, but it has been lately asserted, from the evidence of letters, that its principal author was a Massachusetts clergyman, the Rev. Manasseh Cutler, who had just purchased, as the agent of a colonization company of his State and other parties, 1,900,000 acres in Ohio, and who was in New York, at this meeting of the last Congress of the Confederation, endeavoring to aid legislation concerning the new territory which he wished to colonize, and to shape the laws, as far as he could, to his liking.

#### THE TEHUANTEPEC SHIP RAILWAY.

MANKATO, Minn.

Has the project of a ship railway across the Isthmus of Tehuantepec been agitated since 1881? If so with what results? Please give a history of the scheme showing whether the plan was feasible, and what benefits were likely to result from it.

READER.

*Answer.*—Early in 1881 Captain James B. Eads, who had won considerable reputation as an engineer in building the great bridge over the Mississippi at St. Louis, and also in constructing the system of jetties at the mouth of that river, obtained from the Mexican government the right to build a ship railway across the Isthmus of Tehuantepec. That government also promised him a large grant of money and land, and he immediately made application to Congress for further aid to secure the carrying out of the plan. The matter was referred in the House of Representatives to a committee, and this body Feb. 12, 1881, made report indorsing the project, and recommending the passage of a bill pledging the protection of the United States to the railway company, and guaranteeing the interest on \$50,000,000 of its bonds. This report, however, was laid upon the table by an overwhelming vote, and thus for the time being the consideration of the merits of the project was prevented. There were several strong objections to the scheme at that time. It had been asserted by several competent engineers that the plan was impracticable. Thus, Lieutenant Commander Goringe, the officer who had transported the obelisk from Egypt, said: "However successful Captain Eads may be in moving a laden ship across such a distance, over such varying grades, the ship would not float on reaching the point where the floating

would be a matter of some importance. The jarring in motion no less than the development of strains not provided for in ship construction, must inevitably open every seam, and cause every rivet to leak." Of course a suspicion of dangers of this kind caused much prejudice against the scheme. Still greater prejudice was aroused by the disposition shown by Mexico to claim a chief right in the railway. By the terms of the agreement under which Captain Eads obtained his right of way, charts, and subsidy from that government, it was provided that the Mexican government was to control the railway. This concession, of course, was very prejudicial to the plan of Captain Eads for securing aid from the United States Government, but he was not discouraged. He continued to push the matter through scientific journals, demonstrating that the scheme was not only feasible but desirable. The danger urged by other engineers, that vessels would be injured in transportation, he planned to prevent by a mechanical contrivance which he thus described: "It consists in brief of a cradle, made up of a number of separated parts, but all of them containing hydraulic jacks, on which the ship is in fact supported. All the jacks communicate by pipes, so that the same hydraulic pressure is evenly distributed along the bottom of the vessel, no matter what may be the vertical irregularities of the track. Carried on this hydraulic cradle, the vessel may, in fact, be said to rest upon the water; and there appears to be less danger of injuring the craft than there would be in towage through a canal." Captain Eads estimated the cost of the railway over the Tehuantepec route, 112 miles in length, at \$75,000,000. He claimed that wherever a canal could be built a strong railway for the transportation of ships could be built for half the cost of the canal. He selected the Tehuantepec in preference to the Panama route, partly because of its superior healthfulness, partly because of the less danger to shipping here—the unfavorable winds and calms of a few miles further south being avoided—and partly because it is nearer to American ports. In the fall of 1881, and in 1882, a corps of engineers were employed in surveying this route. However, all Captain Eads obtained from the Forty-sixth or the two subsequent Congresses was favorable committee reports. When he was altogether worn out with the struggle to obtain due recognition for his scheme, the Forty-ninth Congress partially consented to incorporate his company. A bill was passed by the Senate Feb. 17, 1887, which constituted James B. Eads and some eighty other persons named, as a body politic under the name and title of the Atlantic and Pacific Ship Railway Company. The stock was not to exceed \$100,000,000, and when 10 per cent of the stock had been subscribed for and 10 per cent thereon paid in cash, a meeting of stockholders was to be held in Washington or New York for the election of directors. If \$10,000,000 of stock was not subscribed for and 10 per cent in cash paid thereon within two years, the charter, so the bill declared, must expire by limitation. This bill did not get through the House, however, being lost in the rush of legislation before adjournment, and as Captain Eads

died March 8 following, nothing has yet been accomplished with his scheme. There seems little doubt from what was demonstrated concerning the plan that it was feasible, and its accomplishment would unquestionably have been one of the greatest engineering triumphs of the century.

#### PHILOSOPHY OF SOME COMMON THINGS.

DALLAS, TEXAS.  
1. Why is cannon coal so called? 2. Why does a shoe shine when polished with blacking? 3. Why does a whip crack or pop? C. H. LOVELL.

*Answer.*—1. Cannon coal is a corruption of candle coal. This kind of coal is very hard, and can be cut into blocks or strips, and, as it burns with a clear, yellow flame, was often used when first known as a substitute for candles. 2. The philosophy of polish on any substance is simply the production by friction of such smoothness of the surface layer of its particles that they readily reflect the rays of light falling upon them. Different articles are used to aid in procuring this smoothness on different substances. With leather the best substance seems to be a paste containing bone-black—that is, the powder obtained from charred bones or ivory—to which is added a small quantity of acid to dissolve it, oil to preserve the soft texture of the leather, and treacle and gum to render the mass adhesive. A small portion of this rubbed over leather is but slightly absorbed, but renders the whole surface black, and by the help of vigorous friction the smooth surface of the leather necessary for the shining effect is induced. 3. The cracking of a knot on the end of a whip is simply the concussion of the air produced by its rapid movement. The effect differs with the material used for the whip-lash, because some textures present a much greater resistance to the air than others.

#### ALEXANDER AND CLITUS—CYANOSIS.

WESLEY, IOWA.  
1. Did Alexander the Great kill his best friend in a fit of anger? When and how was it? 2. What is a cyanotic person? W. L. PELTON.

*Answer.*—1. When Alexander the Great was at Samarcand, in the year 328 B. C., after his conquest of Asia, in a fit of drunken rage he killed with his own hand his general and friend, Clitus. This officer had saved Alexander's life at the battle of the Granicus, and now ventured to rebuke the conqueror for his overbearing pride and infatuated belief in his divine origin. After the bloody deed, Alexander, overcome with remorse, passed three days without food and drink. 2. A cyanotic person is one afflicted with cyanosis, or blue jaundice, a disease in which the body becomes blue on the surface. This trouble is believed to arise usually from a malformation of the heart, which causes an imperfect arterialization of the blood.

#### THE COAL SUPPLY OF THE WORLD.

CHICAGO.  
Give facts showing the coal supply of the United States and that of foreign countries. How long are the coal fields of the world likely to hold out? R. CASWELL.

*Answer.*—The reports of the United States geological survey declare that our stock of coal is likely to hold out yet for several centuries. The area of known coal fields in this country is 192,000 square miles; that of Great Britain is 12,000 square miles, and including the European fields and ex-

clusive of China, the aggregate annual output is 401,980,000 gross tons, of which Great Britain furnishes 157,000,000 tons, and Germany 58,000,000 tons, Spain furnishes only 1,000,000 tons, and our own country over 106,000,000 tons, two-thirds of which consist of bituminous coal. During the twelve years ending in 1885 the output of coal in the United States mines increased 50,000,000 tons, but we have as yet merely touched the surface of our coal resources, and it is probable that the area of coal fields is very greatly understated. Thirty years ago the official estimate was about 197,000 square miles. If we estimate 3,000,000 tons to each square mile some idea may be gained of the magnitude of our coal supply. There is certainly enough to allay all anxiety. In 1855 the whole output of our country was only 7,600,000 tons, about as much as Scotland produced, and as late as 1858 coal was sent from England to Boston and New York for factories and for private consumption at \$8 to \$10 a ton. But outside the countries mentioned above we should note France, with 20,000,000 tons annually, and Belgium and Austro-Hungary with over 17,000,000 tons each. France has an estimated coal field of 2,086 square miles, Austro-Hungary one of 1,800 square miles, while that of little Belgium is reduced to about 510 square miles. Two countries that should be taken into consideration because of their possibilities are Russia and China. These have an estimated annual yield of 4,000,000 tons each, but Russia has a known coal area, scarcely touched, of 30,000 square miles, and it is probable that under the vast extent of the Pinsk marshes still further wide deposits may be found. China also has an unknown but practically limitless expanse of coal area. The provinces of Che-Keang, Kenng-Soo, Hoo-Nan and Shan-Se contain vast areas of coal lands. Hoo-Nan has 21,700 square miles of coal fields, principally anthracite, and it is estimated by German scientists, who have given the subject strict attention, that there is coal enough in China alone to keep the entire world in fuel some hundreds of millions of years. From these facts the exhaustion of the coal supply is seen to be a very remote danger indeed, and it is very possible that the coal measures may considerably outlast the duration of man himself upon this earth.

#### SALT RIVERS.

CHICAGO.  
Our Curiosity Shop ascribes the saltiness of the ocean largely to the deposition of saline matter by rivers that flow into it. Why, then, do we not have salt rivers—or have streams of that character any existence—outside of politics? R. T. NELSON.

*Answer.*—There are several salt rivers known, all deriving their saline quality from the soil through which they flow. Water is naturally pure, without taste, color, or odor, but it readily absorbs all of those qualities by contact with substances possessing them. Salt springs are of very common occurrence, and there are a number of salt lakes; if salt rivers are less frequently known, it is because the movement of their waters in time removes all the saline matter from the soil they pass through, and its constant renewal prevents the accumulation of such matters by evaporation. There is a Salt River of some note in Australia, and another—the Rio Salado—in the Argentine Republic of South America. In the latter country



the plains are in many places characterized with a saline efflorescence, and nearly all the small streams flowing through them have a noticeable saltish taste. The Athabasca River of British North America has two important saline branches, one of which rises in a natural salt spring or lakelet, and the other has its source in the Cariboo Mountains, which contain vast deposits of rock salt. Another salt river, having its origin in a similar formation, is one of the tributaries of the Great Slave River. In this connection we may note that other various properties are given to rivers, as to springs, by substances dissolved by their waters during their passage through the soil or the rocks. Many of the streams and lakes of Eastern Oregon, for instance, are strongly alkaline in character. The Rio de Vinagre—the Vinegar River—of New Granada, in Central America, is sour from the sulphuric acid in its water. The Orange River, in South Africa—which gives its name to the Republic through which it flows—contains cuprous matter, which renders it poisonous to fishes in part of its course. It is sometimes erroneously supposed that this river gets its name from the dark yellow color of its waters. But it was named, in fact, by the early Dutch settlers, in honor of William, Prince of Orange. In Algeria there is also a stream inky black, and, indeed, it is only diluted ink, owing to one of its two tributaries being strongly impregnated with the iron which it imbibes from a ferruginous soil, and the other from meandering through a peat marsh, being equally rich in gallic acid, the two principal ingredients of ink.

## DRAINAGE OF THE PINSK MARSHES.

NEWELL, Mich.

A recent dispatch says that some 4,300,000 acres of the Pinsk Marshes have been drained, and refers to the work as one of the greatest of the century. Where are the Pinsk Marshes? Tell all about the beginning and progress of the work in them.

M. L. SEWARD.

*Answer.*—The Pinsk Marshes are in Southwestern Russia, on the borders of Galicia. In extent they are estimated at about 35,000 square miles, or larger than the whole of Ireland. From the earliest times this tract has been a dense marsh overgrown with trees and masses of undergrowth, an irreclaimable wilderness, utterly useless for any purposes of civilized man, and only serving as a retreat for fugitives from justice, and the more daring criminals. The Russian government first undertook the reclaiming of this vast wilderness, in 1870. A large staff of engineering officers and several thousand troops were draughted into the region, and these have been engaged upon the undertaking since. Up to the present time about 4,300,000 acres have been reclaimed by means of the construction of several thousand miles of ditches and canals, so broad as to be navigable for barges of several hundred tons burden. Of the expanse of land already reclaimed it is said that over 800,000 acres consisted of sheer bog country, which has been all converted into good meadow land; about 1,000,000 acres of "forest tangle," which have been prepared for timber purposes by cutting down the underwood and thinning the trees; 500,000 acres of good forest land—forest oases in the middle of marshes—hitherto

inaccessible, but which have been connected more or less by navigable canals, and thereby with the distant markets; and, finally, 2,000,000 acres have been thrown open to cultivation, 120,000 acres of which have already been actually occupied. Besides making the canals and ditches, the engineers have built 179 bridges, bored 600 wells from twenty feet to eighty feet deep, and have made a survey of 20,000 square miles of country hitherto unmapped. "When this task is finished," says the *London Engineer*, "Russia will have effaced from the maps of Europe one of the oldest and toughest bits of savage nature on the Continent. From an engineering, geological, and scientific point of view generally, the work is one of special interest."

## THE SEVERN TUNNEL.

ROMEO, Mich.

When was the tunnel under the Severn River, in England, opened? Give the dimensions of this work, its time in building, and cost of it.

J. THOMES.

*Answer.*—Parliament passed an act for the construction of the tunnel under the Severn in 1872, but at first the work proceeded very slowly. In 1879, when three miles had been bored, and the heading of the miners from the two sides had nearly reached each other, a large spring was tapped which flooded the works. Nothing more was done until about the close of the year 1880, when the water was pumped out and the enterprise proceeded. In 1883 the spring was struck again with some resulting damage, which, however, was soon overcome. The tunnel was completed and the first coal train was sent through it Jan. 9, 1886. Sept. 1 following it was opened for regular freight traffic, and Dec. 1 for passenger trains. The tunnel is 7,664 yards in length. The entrance on the English side is a cutting, one and one-fourth miles long, running to a depth of sixty feet, and the approach from the Welsh side is about a mile long and of like depth. As the approaches lie through marsh lands it was necessary to line them with large sea banks to keep out the water at high tide. The tunnel is lined with brick-work from two feet three inches to three feet thick, imbedded in mortar of Portland cement. The time of passenger trains through the tunnel is from seven to nine minutes. The tunnel is ventilated by means of a monster patent fan, which can discharge 240,000 feet of air per minute. The cost of this notable engineering work was about \$10,000,000.

## A BOHEMIAN GENERAL.

CHICAGO.

Give a biography of General Wallenstein, the noted German commander.

L. WALLENSTEIN.

*Answer.*—Albriht Wallenstein, Duke of Friedland, one of the most notable commanders of the early part of the Thirty Years' War, was born in 1583. He was of a rich and noble Bohemian family, and greatly increased his wealth and power by marriage. When the struggle between the Catholics and Protestants of Germany was going on, and the Danes came to the help of the latter, Wallenstein offered to raise and equip an army of 50,000 men to assist the Emperor, Ferdinand II., on condition that he was to have full command of his men and the right to indemnify himself for the cost of supporting his troops by plundering the territories they conquered. The Emperor accepted the terms, and Wallenstein raised his

army, gained many victories over the Danes, and overran the whole north of Germany. But his successes aroused the envy of the Catholic princes, and the fear of the Emperor; and the latter, therefore, in 1629, forced him to disband his army. Wallenstein made no complaint at this injustice, but returned to his castle, where he lived in almost regal splendor. In the meantime, the great Swedish king, Gustavus Adolphus, had taken the field against the German Emperor and inflicted terrible blows upon his armies. The Emperor, trembling for his own personal safety, implored Wallenstein to resume his command. This the noble consented to do, but still insisted upon the privilege of absolute control of his forces. In a few months he encountered the Swedish invaders with a powerful and well-equipped army, and for some months was uniformly victorious. At the great battle of Lutzen, Nov. 10, 1632, in which Gustavus Adolphus was killed, Wallenstein was defeated. After this, though he had reorganized his army and though it was expected that he would press hard upon the enemy just deprived of their great leader, he remained inactive, and it began to be reported that he was intriguing with the Swedes with a view of making himself King of Bohemia. It is not known whether there is any truth in this supposition, but it was the cause of his death. He was assassinated Feb. 25, 1634, by an Irish officer, Colonel Butler, aided by some others, and the Emperor rewarded his murderers with princely gifts, and himself confiscated Wallenstein's property.

#### BUFFALO BUGS.

Tell something about the Buffalo bugs and how to get rid of them.

AURORA, Ill.  
E. W. D.

*Answer.*—This is a small beetle, which has been long known in the Old World, but did not make its appearance in this country until the year 1894. It was first seen in Buffalo, N. Y., whence the name Buffalo bug was given to it. Since that time the insect has spread throughout the West with amazing rapidity. Its scientific name is *Anthrenus Scrophulariae*. Its habits are imperfectly known, and it is somewhat uncertain in what stage of its existence it commits its ravages on carpets and woollens. But it is generally thought that this damage is done when it is in the larva form. After this it passes into the pupa state, from which it emerges after some weeks as a perfectly formed beetle. It somewhat resembles the lady-bug in form, and is a small, brown insect. These pests make their abiding place and lay their eggs along the edges of carpets. The best way of destroying them is to lay two or three thicknesses of wet cloth on the carpet, and iron with hot flat-irons. The steam thus generated will be forced down to the floor, and the insects will be killed. It has also been recommended by good authorities to brush the bare floor with a strong solution of corrosive sublimate. To make the solution, take four parts, by weight, of bichloride of mercury (corrosive sublimate), one part chloride of ammonia (sal ammoniac), and fifty parts water. This is very poisonous, and must be handled with great care. The insects may be readily killed in upholstered furniture by the free use of gasoline—of course taking care that no fire is in the vicinity of

the treated articles until the gasoline has entirely evaporated. Woolen garments may also be treated with gasoline, or they may be placed in light barrels or boxes, and have a little bisulphide of carbon poured upon them. This substance is very explosive, and ignites readily, so it must be used very carefully.

#### ILLITERACY IN THE OLD AND NEW WORLDS.

Answer, Iowa.  
Give some facts showing the comparative illiteracy in this country and in the countries of Europe.  
TEACHER.

*Answer.*—In Our Curiosity Shop book for 1886 our readers will find a very complete table giving statistics of the illiterate population in all the States. The State making the worst showing proportionately for its white population is North Carolina, where 23 per cent of the white males over 21 years of age are unable to write. All the other Southern States have a percentage of white illiterates ranging from 11 to 18 per cent of the population, while from 70 to 80 per cent of the colored voters are in the same ignorant class. But the showing of the Northern States is only better in comparison, New York having 76,745 white illiterates, Pennsylvania 65,985, and Ohio 40,373, though these numbers constitute but 5.5 per cent of the white population in New York, 6.2 in Pennsylvania, and 5 per cent in Ohio. Still, in spite of the very discouraging condition of the educational affairs of the South, investigation shows that there is relatively less illiteracy in this country than in France, England, and Wales, while in some of the German countries the average is considerably below that of South Carolina and Alabama. In Austria, of every 100 males but 56.8 per cent can read or write, and in the Bukovina but 13 per cent of adult males can read or write. The only European countries that present a better average than ours are Prussia, Scotland, Belgium, Holland, and Switzerland, which present trifling exceptions compared with the bulk of Europe. Our ratio of progress is better than that of England even, where it is calculated that, if schooling should continue to increase as it has since 1871, in the year 1915 there will not be an English adult unable to write his or her name.

#### THE BLAIR EDUCATION BILL.

EUREKA, Ill.  
Give the main points of the Blair education bill, which has passed the Senate.

IRA S. WHITMAN.

*Answer.*—The Blair bill "to aid in the establishment and temporary support of common schools," provided that for eight fiscal years next after the passage of the act, annual appropriations from the treasury should be made as follows: For the first year, \$7,000,000; the second year, \$10,000,000; the third year, \$15,000,000; the fourth year, \$18,000,000; the fifth year, \$11,000,000; the sixth year, \$9,000,000; the seventh year, \$7,000,000; the eighth year, \$5,000,000; these several sums to be expended to secure the benefits of common-school education to all the children of school age in the United States, provided that no State shall receive any of this fund unless it has complied with the conditions of the act. Further, that the money shall be apportioned to the several States and Territories in direct ratio to their illiterate population, the computations of illiteracy to be taken from the



census returns of the United States, white and colored children to be like included in the apportionment of the money. The District of Alaska is to be included as a Territory under the operation of the act, and no State or Territory is to receive any money under the act until it shall have made full report of the condition of its schools, their annual expenditure, and other matters concerning them. It is further provided that the apportioned money shall be distributed by the Secretary of the Interior, through the Commissioner of Education, that it shall be applied to instruction in the common branches, in free, non-sectarian schools only; that no part of it shall be expended in the erection or rent of school buildings, but that one-tenth of the part apportioned to any State or Territory may, at the discretion of its Legislature, be used for the education of common school teachers. As the object of the act is to aid the schools already established in the States and Territories, not to establish an independent system of schools, it is also provided that no portion shall be paid out in any year to any State or Territory until such State or Territory has raised an equal amount from its own revenues for school purposes, and each year's allotment must be fully accounted for before the next year's allotment can be made. Further, in addition to the first year's appropriation of \$7,000,000, the sum of \$2,000,000 is to be appropriated for the erection of school-houses in needy districts. There are some minor matters of detail also mentioned, but the above include all the important specifications of the act.

## THE NEBULAR HYPOTHESIS.

OSSEO, Wis.  
Define the nebular hypothesis in astronomy.  
W. H. L.

*Answer.*—The nebular hypothesis was first suggested by Sir William Herschel, and was adopted and developed by Laplace. It is generally accepted by scientists as explaining, as far as possible by human conception, the genesis of the heavenly bodies. The nebular hypothesis assumes that the solar system was once an enormous mass of gaseous substance. Rapid rotation being set up in this gaseous mass it took the form of a disc, and at last, centrifugal force overcoming cohesion, whole rings and fragments flew off from this disc, and by centripetal force contracted into spheroidal masses. As in the original mass, the velocity of the outer circle of each body thrown off is greater than the inner circle, and this causes each spheroid to revolve on its own axis. This process goes on, and the central mass continues to cool and shrink, until we have at last a central body with a number of smaller spheroidal bodies revolving around it in orbits the smaller the nearer they are to the central orb. Certain points are assumed in this hypothesis to explain the distribution of matter in our solar system. It is assumed that in the throwing off great masses from the central disk, immense quantities of minute particles were also thrown, which continued to revolve, in the same plane with the large mass, around the center body. By slow degrees these minute atoms, by the law of gravitation, were aggregated into the mass nearest to them. These subordinate aggrega-

tions would form with most difficulty nearest the large central mass, because of the superior attractive force of the latter, wherefore the interior planets—Mercury, Venus, the earth, Mars, are smaller than the two great orbs in the zone beyond them. These two enormous planets, Jupiter and Saturn, occupy the space where conditions are most favorable to subordinate aggregations, but, beyond them, the gravity of aggregating material becomes reduced, and so the planets found in the outer zone, Uranus and Neptune, are smaller than the planets of the middle zone.

## THE TERRAPIN WAR—RULE OF 1756.

ANTIGO, Wis.  
1. What is the meaning of the phrase, "The Terrapin War," as applied to the war of 1812? 2. What was the "Rule of 1756?" R. M. H.

*Answer.*—1. The opponents of the war of 1812 were especially annoyed at the embargo acts, and with reference to these invented the phrase, "The Terrapin War," saying that the country, by thus extinguishing commerce, was drawing within its own shell like a terrapin. Caricatures, epigrams, and songs were directed against the embargo, and also against the act forbidding intercourse with Canada. In one newspaper cut the trade of the United States was represented by a bewildered serpent, which had caught itself between two trees, marked respectively, "embargo" and "non-intercourse." The wondering snake does not understand the trouble and its head calls out, "What's the matter, Tail?" to which the tail replies, "I can't get out." A cock, supposed to represent France, stands by crowing joyfully. In the spring and summer of 1812 "The Terrapin War" was a popular campaign song with the Federalists. The first stanza of this unique ode was as follows:

"Hurrah for our liberty, boys,  
These are the days of our glory—  
The days of true National joys.  
When terrapins gallop before ye!  
There's Porter and Grundy and Rhea  
In Congress, who manfully vapor,  
Who draw their six dollars a day  
And fight bloody battles on paper!  
Ah! This is true terrapin war.

2. The "Rule of 1756" was an edict issued by King George II., forbidding the vessels of neutral nations to trade with the colonies of France or with any other nation at war with England. In 1801 the rule was greatly modified, but four years later it was revived and put in force against the United States. It was, no doubt, one of the principal causes of the war of 1812.

## THE DRY TORTUGAS.

WOODLAND, Cal.  
Would like an account of the Dry Tortugas, where the accomplices of Wilkes Booth were sent.  
A. O. CRAWFORD.

*Answer.*—The Dry Tortugas is a group of ten islets or bays, at the very extremity of the line of small islands known as the Florida Keys. These islets are of coral formation, and are low and barren, except where partly covered with mangrove bushes. On one of these a light-house and a fort known as Fort Jefferson, have been built. During the late war the fort was used as a penal station for Confederate prisoners, and in 1865 O'Laughlin,

Spangler, Arnold, and Mudd, who had been found guilty of participation in the conspiracy to assassinate President Lincoln, were sent thither to serve out their term of imprisonment. O'Laughlin died on the island, but the others were pardoned. The fort has since been occasionally used to confine prisoners under sentence of court martial.

#### STEAM-POWER IN PLOWING.

LILY LAKE, ILL.  
Give an account of the attempts that have been made to use steam-power in plowing, stating the success that has attended them. J. W.

*Answer.*—The first steam plow made in America was patented in 1833 by E. C. Bellinger, of South Carolina, but it was not successful in operation. The first steam-plow that was successfully used in the field was patented by Mr. Heathcote, of England, in 1832. This plow was used to some extent, but at a trial in 1837 for a prize that had been offered for a successful implement of this kind, it was adjudged too cumbersome and difficult to work. After this other steam-plows were patented, of which the most successful was that of Mr. Fowler, patented in 1854, and again in 1864. Another successful invention was the Howard steam-plow. There were said to be in 1870 over 1,000 steam-plows in use in Great Britain, and numbers had been sent to the East and West Indies, and Egypt, and also to South Africa, Australia, and Canada. The application of steam to plowing was but slowly accomplished in this country, owing probably to the fact that few of our farmers have sufficient capital to try these inventions. The wealthy merchant, A. T. Stewart, had a steam engine for plowing made in England for use on his estate on Long Island. An improvement on this engine was devised and patented by Mr. Hinsdale, an American, and has been since used successfully, not only for plows, but for threshing-machines, mills, and pumps. Two of the largest engines ever used for plowing were made about 1870 by Fowler & Co., of England, for Mr. Effingham, the owner of a large plantation about fifty miles south of New Orleans. Of late years this invention has been steadily gaining ground. Improvements of much value have been made, and yet taking the country as a whole the use of steam in plowing cuts a very small figure in agricultural work.

#### THE CHICAGO TIMES IN 1863.

CHICAGO.  
Give the circumstances attending General Burnside's order for the suppression of the Chicago *Times* during the war. Were not other journals hostile to the administration similarly suspended? R. DEIMAL.

*Answer.*—The first case of the suppression of a newspaper by military order occurred in January, 1863. The paper was the *Evening Journal*, of Philadelphia, which was very outspoken in its hostility to the administration. On the night of Jan. 27, the editor of the *Journal*, Albert D. Boileau, was arrested by order of General Schenck, commanding the Middle Department, and taken to Fort Mifflin, in Maryland. The *Journal* was also ordered suppressed, but its publication was subsequently resumed, and Boileau returned to his work upon it Feb. 1, after having apologized for his treasonable utterances, and

pledged himself to publish no similar expressions of opinion in future. June 1, General Burnside, commanding the Department of the Ohio, issued an order forbidding the sale or circulation within the department of the New York *World*, under penalty of arrest, and declaring the publication of the Chicago *Times* suspended "on account of the repeated expression of disloyal and incendiary sentiments." General Ammen, then commanding the district of Illinois, was charged with the execution of the order, and at the same time the following notice was telegraphed to the editor of the Chicago *Times*:

"CINCINNATI, June 2.—Editor of the Chicago *Times*: You are hereby notified that I have issued an order stopping the publication of your paper, which order will be published in the morning papers of this city to-day (Tuesday morning). You will please govern yourself accordingly.

A. E. BURNSIDE, Major General."

General Ammen immediately gave orders to Captain Putnam, commanding at Camp Douglas, Chicago, to carry the order into effect, and the latter officer warned the publishers of the *Times*, on the night of the 2d, against issuing their paper the next morning under penalty of having their establishment seized by military power. The publishers of the paper, therefore, applied to Judge Drummond, of the United States Circuit Court, for a writ enjoining Captain Putnam from interfering with their business or property, which writ the Judge gave after midnight. Nevertheless, a file of soldiers took possession of the establishment, and, after remaining some time, left, but before leaving warned the owners against issuing their paper. At the opening of court on the morning of June 3 the counsel of the *Times* publishers made a motion to defer proceedings on the application for an injunction until due notice of the application could be given to the military commandant at Camp Douglas. Judge Drummond, on granting the motion, took occasion to express his disapproval of the action of the military authorities. The news of the order having reached Springfield, where the Legislature was in session, that body—which was then strongly Democratic in sentiment—passed resolutions denouncing General Burnside's action "as in direct violation of the Constitution of the United States and of this State, and destructive to those God-given principles whose existence and recognition for centuries before a written constitution was made, have made them as much a part of our rights as the life which sustains us." At Chicago, the office of the *Times* was occupied by a military force in the morning, and was a center of attraction during the entire day on the 3rd. At night a large concourse gathered there in accordance with a call that had been issued in the forenoon of the day. This gathering adjourned to the Court House square, where it was addressed by speakers of both political parties. The speeches, without exception, counselled the observance of the laws, but denounced the act of General Burnside as arbitrary and despotic, and resolutions were adopted to the same effect. During the afternoon, the militia had been ordered under arms, but no violence requiring their interposition occurred. No paper was



issued by the *Times* publisher on the morning of the 4th, but on the evening of that day the following dispatch from General Burnside was received by the editor:

"LEXINGTON, Ky., June 4.—To the Editor of the Chicago *Times*: By direction of the President of the United States my order suppressing the circulation of your paper is revoked. You are at liberty to resume its publication.

"A. E. BURNSIDE, Major General."

On the same day General Burnside telegraphed to the New York *World* that its circulation would be no further interfered with. June 8 a meeting of editors was held in New York, at which fifteen newspapers were represented, and resolutions were passed affirming their entire fidelity to the Government, and their detestation of treason and of all who, by speech or pen, incited or justified rebellion, but asserting the right of the press to criticise fearlessly the acts of the administration, and declaring that any limitations of this right should be confined to localities where hostilities actually exist, and that military officers could not forbid or suppress the circulation of papers published hundreds of miles away. These resolutions were unanimously adopted, and the effect of them was that no more papers were suppressed. General Schenck, on June 21, ordered the Provost Marshals of cities in his department to forbid all editors to take any extracts from the New York *World*, the New York *Express*, the *Caucasian*, Cincinnati *Enquirer*, or the Chicago *Times*, but there is no evidence to show that the order was obeyed.

#### THE NEW JERUSALEM CHURCH.

MARSHALL, Minn.  
Give the points of belief of the "Swedenborgian" or "New Jerusalem Church," and their plan of church government. F. F. MATHEWS.

*Answer*.—The articles of faith of the New Jerusalem Church, very briefly summarized, are as follows: That God, the Creator, is Wisdom, Goodness, and Truth, one in essence, but of a triple nature, corresponding to the soul, the body, and the operative energy of men. That God himself descended from heaven, and, as Jesus Christ, took on the nature of man, for his redemption, not by vicarious sacrifice, but by overthrowing the powers of hell; and that all who believe in Christ, and live accordingly, will be saved. That the Bible is the word of God in every syllable, but must be understood in its spiritual rather than in its literal sense. That the government of the world is a divine providence, guided by love, which permits no evil except to prevent a greater evil, that man derives his life directly from God, that he is in this world influenced by both heaven and hell, with a will absolutely free to choose either good or evil, but with inherited tendencies toward evil, which he can not combat without divine assistance. That charity, faith, and good works are unitedly necessary to man's salvation, and that baptism and the holy supper are divine institutions which should be permanently observed. That death is only a putting off of the natural body, after which man rises in a spiritual body and lives eternally, in heaven or hell; and, lastly, that now is the time of the Second Advent, which signifies a coming not

of the person of Christ, but of the power of His word. That the first Christian Church is spiritually dead and the true church is the Church of the New Jerusalem, which will abide forever. As to church government, the general affairs of this church are administered by a conference of ministers and laymen. Each society is left to itself, on the Congregational plan, and no uniform liturgy and discipline are required.

#### THE DIRECT TAX AND CONGRESS.

CHICAGO.  
Please explain the situation causing the present dead-lock in Congress. When and how was the direct tax levied and what States paid it? What was the cotton tax? E. NELSON BLAKE.

*Answer*.—In 1861, when the need of money on the part of the Government was most imperative, an attempt was made to secure aid directly from the States. The special session of Congress in the summer of 1861 passed a bill for the authorization of loans and the increase of duties on imports, and to it added a clause providing for an annual direct tax of \$20,000,000, to be apportioned among the States. An estimate of the wealth of the State was made, based on the census report, and by it the quotas of the different States were apportioned. No provision was made by the Federal Government for the collection of this tax; it was virtually a requisition on the States for so much money. Some of the States paid the assessment from the surplus in their treasuries; others provided for it by a direct tax levy. The tax was only collected for one year. It was apportioned in the seceded States as in the others, and as the governments of these were not ready to raise money to assist in their own discipline by the Federal army, the tax was levied on the property of individual citizens as far as they could be reached. In this way, and by the seizure of State property, after the overthrow of the seceded governments, a large part of the tax apportioned in the seceding States was collected; South Carolina thus unwillingly paying her entire amount. The constitutionality of the measure has always been questioned, but when objections have been made to the claim that the deficit can be still held as a lien on the non-paying States, the plea has been put forward that if the tax was not lawful the States which did pay ought to be indemnified. For instance, suit was brought by the State of Louisiana to recover its share of the proceeds of the swamp and abandoned lands and the quota of 5 per cent on the proceeds of the sales of other lands by the General Government. The defense of the United States was: 1. That a State has no right to sue the United States; 2. That the indebtedness of the United States to the State of Louisiana for the objects named was offset and has been so entered on the books of the Treasury by the indebtedness of the State to the United States for direct taxes levied during the war and remaining unpaid. This case was decided by the United States Court of Claims in January, 1887, by setting aside the defense of the United States, and giving to the State of Louisiana judgment for the full amount claimed. Similar suits being pending before the Court of Claims from Alabama and Mississippi, the Senate Finance Committee took up the question in February,

1887, of refunding the direct taxes to those States which had paid them. A bill for that purpose was brought before the Senate and passed, and the present dead-lock in Congress has been brought about by the determination of a number of the Democrats to prevent, if possible, a quorum for the consideration of the bill. There is so much held out by the bill to the advantage of many States that its passage was considered certain. The bill for the refunding of the cotton tax is said to wait upon the success of the other. This tax was levied in 1862, and was collected on raw cotton wherever found to the close of the war. The sum total of the direct tax collected was over \$15,000,000; of the cotton tax, \$69,000,000.

#### THE DESERT LAND LAW.

LAWRENCE, Kan.  
Give the provisions of the desert land law.  
JOHN PARDEE.

*Answer.*—The desert land act applies only to the States of California, Oregon, and Nevada, and the Territories of Washington, Idaho, Montana, Utah, Wyoming, Arizona, New Mexico, and Dakota. Any person desiring to make entry of desert land in any of these States must file with the officers of the land office for the district wherein the land is situated a declaration showing that he is citizen, or intends to become a citizen; that he intends to reclaim the tract of land—giving its situation—which he enters; that the land will not produce crops without irrigation, that there is no timber growing on it, and not, to his knowledge, any kind of valuable mineral deposited in it. It is necessary also to procure at least two disinterested and credible witnesses to make affidavit that the land is actually desert land. These witnesses must not only bring presumptive proof of their honesty, but must also show that they are acquainted with the situation and character of the land of which they speak. The applicant for the land must then pay for it, at the rate of 25 cents per acre, and he is not allowed to take up more than one section. If within three years after this application he can make satisfactory proof that he has irrigated the land, the applicant can receive a patent for the land on paying the additional sum of \$1 therefor. It is provided that the right to use water from any contiguous natural sources for irrigating desert land thus taken up shall depend upon bona fide prior appropriation, and shall not in any case exceed the amount of water actually needed for reclaiming the land.

#### WHO WAS "SOAPY SAM?"

CHICAGO.  
In what work of fiction does the character of "Soapy Sam" occur?  
MAY ATWATER.

*Answer.*—The name "Soapy Sam" does not belong to fiction, though it may have been adopted by some penny-a-liner novelist of later days. It was applied by his enemies to Bishop Samuel Wilberforce, at the time of the Tractarian controversy at Oxford. He was a man of great personal magnetism and remarkable eloquence, and took a very active part in the debates in the House of Lords. As he held his opinions very strenuously and defended them with convincing power, he naturally had many enemies politically, though he was of the most upright character, and there was never the slightest imputation against his integrity. The

Bishop knew of the cognomen applied to him, and once, when a little girl, overcome by curiosity, said, "Please, sir, why do people call you 'Soapy Sam?'" he replied, "Because, my dear, when I get into hot water I always come out clean."

#### ROME AND THE PAPAL POWER.

MR. PLEASANT, IOWA.  
1. In what year did the Popes of Rome first become possessors of temporal power? 2. Into how many divisions was the Roman Empire divided, and what were the names of these divisions, and what territory did they cover? What are their modern names and territory? 3. Which of these divisions was destroyed, or taken possession of by, or for, the papal power, and in what year was this done? W. H.

*Answer.*—1. The temporal power of the Popes did not burst into existence all at once, nor did it depend upon any imperial edict; it was a natural, but for many years imperceptible, growth from the spiritual authority. Even under the pagan empires the church had gained extensive possessions, and one of the first deeds of the Emperor Constantine was to give not only security, but also a legal sanction to the territorial acquisitions to the church. He not only recognized ecclesiastical corporations as the owners of lands, but confirmed certain estates as the property of the Holy See. By the early part of the eighth century, the papal power had gained great importance. Gibbon says: "The popular election of the Popes endeared them to the Romans, the public and private indigence was relieved by their ample revenue; and the weakness or neglect of the Emperors compelled them to consult, both in peace and war, the temporal safety of the city." When the Lombards attacked Rome in 756, it was the Pope (Stephen III.), who called in the aid of the Franks, and after the successful repulse of the northern invaders by help of King Pepin, the Popes in all their proceedings assumed the style of temporal sovereigns. But this authority was little more than nominal, until Charlemagne, after totally overthrowing the Lombard monarchy, in 455, secured some important possessions as the property of the pontificate. 2. The ancient Roman empire, which was finally overthrown in 453, must not be confounded with the Holy Roman Empire, founded by Charlemagne. The ancient Roman Empire, in the time of Augustus, included Italy, the peninsula of Hispania and Gaul, the larger part of the island of Britain, Eastern Europe south of the Danube to Constantinople, and a large part of Asia and Africa. But any division of the Roman Empire into provinces is more or less misleading, since no such arbitrary arrangement existed. After the destruction of the ancient Roman Empire, and the great migrations, the arrangement of the new nations was—about 500 A. D.—as follows: North of the Black Sea and east of the Dnieper, the Hunic tribes; south and west of the Black Sea, including Asia Minor, Thrace, Macedon, and Greece, the Byzantine or East Roman Empire; immediately north of the Danube, the Gepides, and north and west of these, the Longobards, while further north and east, comprising the most of what is now Russia and Prussia, was the territory held by the Slavonian tribes. The Ostrogoths held the country south of the Danube; north of them were the Saxons and



the Franks, and east of them the Burgundians; while west of the Rhine and south of the Loire, and including all of what we now call Spain, were the Visigoths, but the western part of the Hispanian peninsula was held by the Suevi. The Vandals at this time had taken possession of Northern Africa. But this was no hard and fast allotment of territory. For centuries the boundaries of European divisions shifted like the figures of a kaleidoscope, as the turbulent tribes encroached upon one another, and now one and then another was victorious. The strongest influence in checking this chaotic march of history and consolidating the tribes into nations was the appearance of certain great leaders. Of these Charlemagne was one of the most powerful, and his reign was an era in European history. He was the founder of the Holy Roman Empire, an imperial division which he meant to rival the Byzantine Empire in power and glory. It comprised all Gaul, Spain to the Ebro River, all that was then Germany, and the greater part of Italy. After his time the "Holy Roman Empire of the German Nation" became the great political institution of the middle ages. "In theory it was the union of the world-state and the world-church—an undivided community under Emperor and Pope, its heaven-appointed spiritual and secular heads." It was, as an actual political fact, the union of Germany and Italy under one sovereignty. To this alliance the people of Italy were never wholly reconciled, and with the death of Henry VII, in 1313, German power south of the Alps came to an end. But Germany kept the title of "The Holy Roman Empire" as a symbol of the special protection of the Holy See, until the French Revolution. 3. The temporal power of the Popes disappeared, as it came into existence, by degrees. By the beginning of the nineteenth century it had come to mean nothing more than the rule of the states of the church in Italy. In 1870 the King of Italy occupied Rome, and with the exception of the palace and basilica of the Vatican, reserved for the residence of the pontiff, all church property in Rome and its contiguous territory became the property of the nation.

#### IRON AND STEEL.

Boulder, Col.

Explain the effect of the tariff upon the price of pig-iron and Bessemer steel iron in this country, giving price before tariff and after, and the amount of the protective tariff. Show whether it raised the price, by the amount of the tariff, to the consumer as the free traders argue or not. N.

*Answer.*—The lowest price of pig-iron before the present tariff was imposed was reached in 1851 and 1852, when this commodity sold for \$19 per ton. In 1860 the price of pig-iron was \$20.50 per ton. In 1885, with the present tariff in force, the price of pig-iron went down to \$17 per ton, or \$2 lower than the lowest price ever before reached either with or without a tariff. The present rate of duty on pig-iron is \$6.72 per ton. It would appear, therefore, that the imposition of a duty has not tended to preserve an artificial price, but on the contrary the natural competition of trade has operated in the direction of cheapening this commodity to an extent never before realized, even under a system of free trade. This would not in-

dicate that the natural course of trade has been in the least hampered or artificially controlled by the tariff on pig-iron. On the other hand, it has stimulated investment in the manufacture of iron, it has enormously increased the production, and in that way competition has been aroused and prices reduced.

GOVERNOR MOSES ROBINSON.

PAINE'S POINT, Ogde Co., Ill.

Give a sketch of the first Governor of Vermont.  
GILES B. ROE.

*Answer.*—Moses Robinson was born at Hardwick, Mass., March 26, 1741. His father, Captain Samuel Robinson, was one of the first settlers of Vermont. His brother, Jonathan Robinson, also rose to distinction, having been a judge and then United States Senator. Moses Robinson served in the Vermont Legislature, and was Governor of the State in 1789 and 1790. He was a Senator of the United States from 1791 to 1796, when he resigned. He was one of the minority opposed to the ratification of Jay's treaty. Governor Robinson died at Bennington, Vt., May 26, 1813.

#### THE FRENCH RENAISSANCE.

Flora, Ill.

What was the Renaissance mentioned in French history?  
D. A. McQUEEN.

*Answer.*—Renaissance is the name given to the style of art, especially architecture, which succeeded the Gothic in Europe, beginning in Italy about the middle of the fifteenth century and spreading northward through Europe. It is also used to denote the time during which this style of art prevailed, and also to include the development of the European races in other lines as well as art. The name signifies the new birth. The date of the beginning of this period coincides with that of the fall of the Byzantine Empire, and the latter was no doubt the cause of the former, for when the Turk took possession of Constantinople all the memorials, paintings, books, etc., that could be removed from the destroying hand of the invader, were hastily conveyed to Italy. These inspired just admiration among the Italian people, and aroused not only a desire to emulate the construction of such worthy work, but also an interest in ancient works and models. In 1494, Charles VIII, King of France, made a warlike expedition into Italy, and on his return brought some Italian workmen to supervise the construction of the royal buildings. This was the first introduction of the Renaissance into France. Communication between France and Italy was also stimulated by this expedition, and the growth of Italian ideas among the French was steady, though slow. In the reign of Louis XII, 1492-1515, the work was further stimulated by the founding of a school of architects, under an artist from Verona. But it was under Francis I, 1515-1547, that the new growth was most stimulated and aided. This Prince was possessed both of learning and intellectual power. He had a sincere love for literature, science, and art, and a keen appreciation of the beautiful in these departments. He invited a number of Italian artists to his court. Among the most famous of these were Leonardo da Vinci and Benvenuto Cellini. These and others introduced Italian details in their designs and

native architects applied them to old forms with which they were familiar, so that the French Renaissance was similar to that of Italy, but different from it in many important respects. All lines of art felt the Renaissance spirit, and not merely architecture, painting and sculpture, but also music, poetry and literature were stimulated. The minor plastic and decorative arts, engraving, working in wood and metals, pottery, tapestry, etc., were cultivated with eagerness and skill. The study of the classics also received a new impulse, and this era had, in France, some of the greatest scholars of their time. Historical writers usually consider the Renaissance period as one of the most important influences in hastening the work of the Reformation, and ushering in the progress that has marked the modern history of the world.

#### THE GRUBE METHOD.

ODIN, IOWA.

What is the Grube Method in arithmetic? Don't say, ask the nearest school teacher. I have, but she does not know. R. S.

*Answer.*—August Wilhelm Grube was a German teacher and educational writer, who was born in 1816, and died in 1884. His writings are numerous, and cover the entire field of educational work, but none was of more lasting importance than the system devised by him, after much thought, for teaching the elements of arithmetic. It was published under the name of "Guide for Reckoning in the Elementary School. According to the Principles of an Inventive Method," a book which marked an era in arithmetical instruction in Germany, and has had much influence on teaching in other countries. He took the germ of his plan from Pestalozzi, but went much further than the latter in developing the pedagogic method. One of the most important features of the Grube system is that the fundamental processes of arithmetic are not taught in fixed order, as addition, subtraction, multiplication, and division. He taught the four processes together, believing that to be the natural method of the mind. He makes the first year's work a study of the small numbers from 1 to 10. The child is first taught by objects to count, and then, using objects all the time, to add, subtract, multiply, and divide the concrete numbers. The second year numbers from 10 to 100 are taught, objects and lines being used for illustration as far as possible. The third year whole numbers above 100 are taught, and the fourth year's work is given to fractions. The advantage of this method is found in the gradual and logical development, which brings the child's powers into action evenly, trains him in close observation, develops his power of close attention, and forms in him the habit of thoroughness.

#### CAPTAIN HENRY WIRZ.

CHICAGO.

Was Captain Wirz, who had charge of Andersonville prison, executed by the United States Government? If so, when and how? I. C. PANCOAST.

*Answer.*—The troubled condition of affairs just after the war made it necessary to try many cases by a special military tribunal, and Captain Wirz was brought before one of these. An order of Aug. 19, 1865, directed certain officers detailed for the purpose to meet as a special military commission Aug. 21 for the trial of such prisoners as might

be brought before it. The commission assembled on the day named, and Wirz was arraigned on the charges and specifications. The first charge was of a traitorous conspiracy with others to injure the health and destroy the lives of soldiers in the service of the United States, held and being at the time prisoners of war. The second charge was for murder, in violation of the laws and customs of war, with thirteen specifications. A motion was made to quash the charges and specifications as too general and uncertain, and because the offenses charged were cognizable by civil rather than military courts, but after some argument this motion was overruled by the court. The prisoner pleaded not guilty, but was ordered to be sent back to prison, and the court adjourned sine die. Aug. 23 the commission met again, and under special powers from the War Department, proceeded to the trial, under the charges and specifications essentially as first made. The trial was very long and tedious. A great many witnesses were examined, and an enormous amount of testimony was taken, and in the end the prisoner was found guilty on both charges and sentenced to death. He was executed Nov. 10, 1865.

#### HOWE'S CAVE.

CHINA SPRING, TEXAS.

Give a description of Howe's Cave.

H. E. CONGER.

*Answer.*—Howe's Cave is situated thirty-nine miles from Albany, N. Y., and, after the Luray Cave, Virginia, and the Mammoth Cave, Kentucky, is probably the most remarkable cavern known. Lester Howe, for whom it was named, discovered it in the year 1842. It is also called the Otsgaragee Cave. Howe, it is related, penetrated to a distance of eleven or twelve miles, but visitors do not generally go further than about four miles. The cave is lighted by gas as far as a body of water called the Stygian Lake. The entrance is about fifty feet above the valley, and the rock chambers known as the Reception-room, Washington Hall, the Bridal Chamber, and the Chapel, are successively reached. Then the Harlequin Tunnel is traversed, and the visitor passes through Cataract Hall, Ghost Room, and Music Hall. The Stygian Lake is 10 feet deep, and is 30x20 feet in extent. Fine stalagmites appear both above and below the lake. The visitor crosses the lake in a small boat, landing on Plymouth Rock, whence the path follows a small brook, and traverses the chambers and passages known as the Devil's Gateway, Museum, Geological Room, Uncle Tom's Cabin, Giants' Study, Pirates' Cave, Rock Mountains, and Valley of Jehosaphat. Then the Winding Way is succeeded by the Rotunda. The stalactites and stalagmites are abundant and beautiful. The cave as far as it is usually traversed by visitors is one of the wonders of the continent.

#### JULES FRANCOISE CAMILLE FERRY.

FLORIDA, ILL.

Give a brief biography of the French politician, Jules Ferry. M. MARON.

*Answer.*—Jules Francois Camille Ferry was born April 5, 1832. He was the son of a noted lawyer. He was trained for the law, but showed an inclination for politics, affiliating with Republicans and attacking the empire by means of con-



tributions to the newspapers. In 1863-65 he was several times brought to trial on account of the political pamphlets he issued. In 1869 he was elected to the Chamber of Deputies for the Sixth Parliamentary Arrondissement, and became at once a most dangerous opponent of the government. After the fall of Sedan and the capitulation of Napoleon and his army, Jules Ferry was made a member of the Provisional Government and Secretary of the National Defense Committee. October 31, 1870, he succeeded Etienne Arago as Mayor of Paris, and was forced to flee at the outbreak of the Commune. After the suppression of the Commune, Ferry was appointed Prefect of Paris, but he kept this position only ten days, and was sent to Athens, Greece, as Envoy of the French Republic, where he remained one year. To the Chamber of Deputies he was elected repeatedly during the presidencies of Thiers, MacMahon, and Grevy. When Grevy was elected President of the French Republic Ferry entered Waddington's cabinet as Minister of Public Instruction, and distinguished himself by his famous bill against clerical teachers in the schools. He was Premier from 1880 to 1881, and in 1883 was again called upon to form a ministry, and held the offices of Premier and Minister of Public Instruction. In 1884 he was again Premier.

#### PONCE DE LEON.

Give a sketch of Ponce de Leon and his expedition to the new world.

*Answer.*—Juan Ponce de Leon was born in the province of Leon, Spain, about 1460. He belonged to an ancient family, and was a page of King Ferdinand V. In early manhood he distinguished himself in the wars against the Moors of Granada. He accompanied Columbus on his second expedition in 1493, and was made commander of the eastern province of Hispaniola. In 1508 he led an expedition to Porto Rico, and having conquered the island he became governor of it, but ruled with such severity that the family of Columbus caused his removal. He was then advanced in years, but his love of adventure was still unabated, and in 1512 he sailed from Porto Rico in search of a fountain whose waters would restore youth and beauty, which a tradition of the natives asserted was to be found on a distant island. After visiting the Bahamas and seeking for the fabled fountain in vain, he descried on Easter Sunday land which he supposed to be another island. This, from the day of its discovery (Easter Day being called in Spanish *Pascua Florida*) and also because of the luxuriant vegetation and flowers that covered its banks, he called Florida. April 8, 1512, he landed some miles north of the present site of St. Augustine, and took possession of the country in the name of the King of Spain. He spent some months searching for the fountain of youth in this country, and also on the Tortugas, and finally returned disappointed to Porto Rico, leaving one of his followers to continue the search. He returned to Spain in 1513, and was appointed Governor of Florida. In 1521 he took a colony thither and attempted to form a settlement. Soon after, how-

ever, in a conflict with the natives, he was severely wounded and returned to Cuba, where he died.

#### THE ILLINOIS LEGISLATURE IN 1863.

OTTAWA, Ill.

I would like to ask if the Legislature of the State of Illinois, in the dark days of the rebellion, did vote to give no assistance to the Union cause, and, also, if they did not vote to withdraw the soldiers of the State who were at the front, and did vote not another man nor another dollar should be granted on two occasions; and finally, on the third vote, did not Dick Yates, as he was called, prorogue them for want of a quorum in the House? Also, what did Senator Funk say when he challenged any one of them to fight him on the floor of the House. I mean of the opposite party. I am sometimes disputed, and if I am wrong I wish to be put right on all of these important questions, which should be before the people.

GABRIEL RUGER.

*Answer.*—In the Twenty-third Illinois General Assembly, which convened Jan. 5, 1863, the Democrats had a majority in both houses. It was not a harmonious body. There were radical differences of opinion between the two parties concerning the measures employed by the National Government to overthrow the rebellion, and much time was spent in the fruitless discussion of these measures. The views of the Democratic members are fairly indicated by the following resolution, from the majority report from the Committee on Federal Relations. After declaring the suspension of the writ of habeas corpus, and other similar acts on the part of the Government, to be flagrant usurpations of power, the committee said:

"Believing that our silence would be criminal, and may be construed into consent, in reverence for our Constitution, which has been ruthlessly violated, we do hereby enter our most solemn protest against these usurpations of power, and place the same before the world, intending thereby to warn our public servants against further usurpations: therefore,

"Resolved, by the House of Representatives, the Senate concurring therein, That the army was organized, confiding in the declaration of the President, in his inaugural address, to wit, 'That he had no purpose, directly or indirectly, to interfere with the institution of slavery in the States where it existed, and that he believed he had no lawful right to do so, and that he had no inclination to do so;' and upon the declaration of the Federal Congress, to wit: 'That this war is not waged in any spirit of oppression and subjugation, or any purpose of overthrowing any of the institutions of any of the States;' and that, inasmuch as the whole policy of the administration, since the organization of the army, has been at war with the declarations aforesaid, culminating in the emancipation proclamation, leaving the facts patent, that war has been diverted from its first avowed object to that of subjugation and the abolition of slavery, a fraud, both legal and moral, has been perpetrated on the brave sons of Illinois, who have so nobly gone forth to battle for the Constitution and the laws. And, while we protest against the continuance of this gross fraud upon our citizen soldiers, we thank them for their heroic conduct on the battlefields that shed imperishable glory on the State of Illinois."

The object demanded by these resolutions was the assembling of a National convention to arrange for a speedy peace, and it was intended to transmit a copy to the President, to each member

of Congress, and to the Governors of the several States, but before the concurrence of the upper house of the Assembly had been secured, one of the Democratic Senators died, which left that body politically a tie. As the presiding officer was a Republican, the resolutions were left unacted upon. The entire session was a most exciting one, for every proposal made by the executive to raise more troops from the State was opposed by the majority in the Assembly. Many forcible and even violent speeches were made in both houses, but the most remarkable of these was that of Isaac Funk, of McLean County, a member of the Senate. The circumstances of his speech were as follows: The question of voting an appropriation for the raising of more troops being up, the opposition were trying to defeat it, when Mr. Funk, who had never made a speech in his life before, rose and said:

"Mr. Speaker, I can no longer sit in my seat and see such boy's play going on. These men are trifling with the best interests of the country. They should have asses' ears to set off their heads, or they are secessionists and traitors at heart. I say there are secessionists and traitors at heart in this Senate. Their actions prove it; their speeches prove it. I can sit here no longer and not tell these traitors what I think of them. And, while so telling them, I am responsible for what I say. I am ready to meet any man on this floor in any manner, from the pin's point to the mouth of a cannon, upon this charge against these traitors. I am an old man of sixty-five. I came to Illinois a poor boy. I have made a little something for myself and my family. I pay \$3,000 a year in taxes. I am willing to pay \$6,000, aye, \$12,000," (and here the old gentleman brought down his fist on the desk with a blow that would have felled a bullock, causing the inkstand to bound several inches in the air, while the gallery rang with cheers) "aye, I am willing to pay my whole fortune, and then give my life to save my country from these traitors that are seeking to destroy it." We have not space for all of the speech, which was all in this strain, denouncing the opposition as traitors, and daring them to come out and fight him. The very men who opposed the taxes, he said, were those who never paid any taxes at all. The speech was so spontaneous and earnest in its patriotism, in spite of its unpolished form, that it produced great effect. It was taken up by all the loyal newspapers, and quoted with delight from one end of the country to the other. It was the first and last speech that Mr. Funk ever made, but it gained him National fame. At last the Governor availed himself of a technicality to get rid of this recalcitrant Legislature. A resolution fixing the day for final adjournment as June 8 passed the Senate on the 3d of the month. It was sent to the House for concurrence, and that body amended the resolution by fixing June 22 as the day for adjournment. The Senate neglected to act formally on this amended resolution, and on the morning of the 16th Governor Yates transmitted a message to both houses proroguing the Assembly to the Saturday next preceding the first Monday in January, 1865, that is, the day on which this Legislature would cease to exist. He justified his action

by a provision of the constitution which gives the Governor power "in case of a disagreement between the houses as to the time of adjournment," "to adjourn the Assembly to such time as he thinks proper, provided it be not a period beyond the next constitutional meeting of the same." As soon as this message was read the Republican members all withdrew from both houses, leaving the opposition without a quorum. Being unable to transact further business, the majority entered upon the records a protest against the action of the Governor and informally left their seats. The matter was brought before the State Supreme Court in several mandamus cases. Of the three judges of this court one was absent when the cases were passed, and the other two, Justices Breese and Walker, wrote separate opinions, each, however, mainly concurring with the other. Justice Breese said: "Admitting, then, that the act of the Governor was, in the language of the protest, illegal, outrageous, and unconstitutional, both houses having adopted it and dispersed, they thereby put an end to the session, evincing, at the time, no intention to resume it. This, for all practical purposes, was an adjournment sine die." This decision ended the controversy.

#### THE PEACE NEGOTIATIONS OF 1863-4.

MONDON, Wis.  
Did President Lincoln send a secret embassy to Richmond in 1863 or early in 1864 to make terms of peace with Jeff Davis, offering amnesty to all the Rebels?  
CITIZEN.

Answer.—The history of this famous negotiation, which was never fully told until recently, is as follows: In 1864 Colonel J. F. Jaquess, of the Seventy-third Illinois Infantry, believing himself inspired by the Almighty to make peace between the North and South, appealed to the President, through Mr. James R. Gilmore, for authority to visit Richmond and begin negotiations. Mr. Gilmore was an author and a great friend of President Lincoln. The President positively declined to appear openly in the matter, but he rather wished Jaquess to go, in order to find out informally whether the Confederate government was disposed to treat for peace. Jaquess was not successful in getting through the lines, but his plan suggested to Mr. Gilmore the idea that if an offer of terms of peace were made to Jefferson Davis, and rejected by him, the publication of the fact would count for much in the Presidential election. The Northern Democrats were then proposing to run McClellan on a "peace with union" platform, and if it could be shown that the South would consent to nothing less than independence, the continuation of the war would appear inevitable. Moved by this argument, Lincoln allowed Gilmore to go to Richmond, informally and without diplomatic authority, to sound Davis as to his willingness to make peace on certain specified terms. These were briefly (1), the restoration of the union, (2) the abolition of slavery, (3) full amnesty to all engaged in the rebellion, (4) \$400,000,000 in United States bonds to be distributed among the States to be used in payment for slaves at one-half their value in 1860. The Southern States were to have immediate representation in Congress on the basis of their voting population, and a National Constitutional Convention was to be called to make such



changes in the Constitution as might be necessary to perpetuate the new order of things. Gilmore went to Richmond and had several interviews with President Davis, but the latter refused to negotiate on any basis except those of complete Southern independence. Mr. Gilmore then returned, and wished to publish a full account of his mission, admitting its official character. President Lincoln, however, positively objected, and made Mr. Gilmore promise not to reveal the fact that he (Lincoln) had sanctioned the mission or make public the terms offered. As the commission had been intrusted to Mr. Gilmore without consultation with the Cabinet, his consent to respect the President's wishes effectually suppressed the matter. The other circumstances and facts of his negotiation he made public, but did not tell of Mr. Lincoln's connection with the matter until April, 1887, when he gave the whole story to the public through the *Atlantic Monthly*, under the title of "A Suppressed Chapter of History."

#### THE ROXBURGHE TITLE.

ROCK FALLS, Ill.  
1. Give a history of the noble family of Ker, Dukes of Roxburghe. 2. Give the family names of the Dukes of Westminster and Leeds. CONSTANT READER.

*Answer*.—1. There was more than one branch of the family of Ker, that which received the honor of the Roxburghe title being the most notable. The Kers of Cessford came into note in the time of the border troubles in the sixteenth century. In 1600 Sir Robert Ker was raised to the peerage of Scotland as Lord Roxburghe, and a few years later became Earl of Roxburghe. The fifth earl of the line was further honored with the title of Marquis of Bowmont and Duke of Roxburghe. The most noted member of the family was John, the third duke, who was born in 1740, and who became a great friend of George III. The Duke was of handsome figure and fine mental accomplishments, and was an especial social favorite. He had his residence in London, but traveled extensively on the continent, and in his visits to Germany met and fell in love with Christina Sophia, the eldest daughter of the Duke of Mecklenberg-Strelitz. There was no real objection to the match, but George III. of England had just married Charlotte, the intended bride's younger sister, and the etiquette of royal families at that time forbade that an older daughter should take a husband inferior in rank to that of a younger sister. Such an objection would not be insisted upon in these later days, but then the punctilio of etiquette was inexorable, and the young people could only yield to their unhappy fate. They proved the sincerity of their attachment by the fact that neither of them ever married. The Duke became a great collector of old and rare books, and many are the incidents told by bibliographers, concerning the ardor with which he pursued his hobby. He had his collection in a mansion in St. James' Square, London, and upon his death in 1804, his collection was sold at auction, some of the volumes and manuscripts bringing enormous sums. In honor of him the Roxburghe Club was instituted, for the purpose of printing copies of rare manuscripts. As this duke left no children the direct line of succession was broken, the British honors lapsed, and the Scottish honors reverted to

a distant cousin. A generation later, there was a contest for the dukedom which was settled in favor of Sir James Innis Northcliffe, who was but remotely connected with the old Ker family. His descendants now hold the family honors and bear the surname of Innis-Ker. 2. The family name of the Duke of Leeds is Osborne, that of the Duke of Westminster, Grosvenor.

#### UTILIZATION OF WAVE-POWER.

WAUKEGAN, Ill.  
I have recently completed an invention for the use of the power of waves, which I believe to be very valuable. Can you tell me whether anything of this kind has ever been made or put in use hitherto? READER.

*Answer*.—As the great waste of mechanical force in the waves that break upon the shores of large bodies of water has long been a subject of discussion with inventors, there is little doubt that frequent devices for utilizing this force have been made, and, perhaps, patented. A quite recent invention by a Canadian is mentioned by the *American Cyclopaedia* for 1886, and noted as being especially valuable as the first device for utilizing the momentum of the wave, rather than its buoyant or lifting force. This new invention has been used successfully to pump water from the St. Lawrence River to the residence of the inventor, through a pipe three-fourths of an inch in diameter, 200 feet long, to a tank forty feet above the water level. Posts were anchored in crib-work deep enough to allow the waves to pass freely between them. To these, with arms, there is suspended a plank float, which is six inches wide and six feet long. To the middle arm holding this float was attached a rod which worked the pump. Those who have examined this invention have expressed the opinion that it will in time be applied to work of a more important character.

#### THREE REMARKABLE STATUES.

CHICAGO.  
Will Our Curiosity Shop give descriptions of the three notable monuments, of Frederick the Great at Berlin, of Peter the Great at St. Petersburg, and of "The Great Elector" at Dresden? INQUIRER.

*Answer*.—The colossal statue of Frederick the Great at Berlin is one of the most magnificent monuments of Europe, or, indeed, of the whole world. It is of bronze, and stands on a pedestal of granite. The pedestal is twenty-five feet high, and above this the statue, showing the great Emperor on horseback, is seventeen feet in height. It is perfect in all proportions, and absolutely true to life. Around the sides of the granite pedestal are bronze groups, life size, of all the leading generals and statesmen of the Seven Years' War, amounting in all to thirty-one persons. At each corner of the pedestal above the groups are figures of Justice, Prudence, Fortitude, and Temperance; between these are bas-reliefs representing different periods in the life of Frederick: the muse teaching him history; Mercury giving him a sword; walking in the gardens of his palace, surrounded by his favorite companions, greyhounds; playing on his flute; in the weaver's hut, drawing the plan of battle after his defeat at Rollin. On the front tablet is inscribed, "To Frederick the Great, Frederick William III., 1840, Completed by Frederick William IV., 1851." The well known statue of Peter the Great stands at the corner of the Admiralty square, St. Peters-

burg. By it the monarch is represented as mounting a precipice. It is said that the artist who executed this fine work took his design from seeing an officer, mounted on a wild Arabian steed, ride to the top of a cliff and halting there cause his horse to rear and paw the air with his forefeet. In this statue the Emperor's head is uncovered and crowned with laurel. The right hand is stretched out as in the act of giving benediction to his people, while the left holds the reins. The design is masterly, and the attitude spirited. This statue is also of bronze. There are three statues of some note in Dresden. In the center of the Zwinger, or palace yard, is one of Frederick Augustus II., and one of the Elector Maurice opposite the Arsenal. But the one mentioned is probably the bronze equestrian statue of Frederick Augustus I., known as Augustus the Strong, which stands near the end of the New Bridge. This is spoken of as very fine, and as well showing the magnificent physical form that gave the Elector his favorite surname.

#### PRINCE FREDERICK CHARLES.

Give a biography of the late Prince Frederick Charles of Prussia.

CHICAGO.  
R. H. L.

*Answer.*—Prince Frederick Charles was the eldest son of Prince Charles, the brother of the Emperor William, and his mother was a sister of the Empress. He was born March 20, 1828, and was educated for the army. He took the field in the first Schleswig-Holstein war in 1848, and displayed great personal bravery at the storming of the Danewicke, and on the field of Duppel. After this war he rose steadily in the army, becoming a general of cavalry, and chief of a corps of Brandenburgers. He commanded the right wing of the Prussian army during the Danish war of 1864, and in the Austrian war of 1866 commanded the division known as the first army. He commanded a division in the Franco-Prussian war, and led it to victory on several bloody fields. He commanded the force to which Bazaine surrendered at Metz. After the close of the war the Prince retired to his estates, near Potsdam where he spent much of his time in studying works on military subjects. He died in 1885. The nickname of "Red Prince," by which he was so often mentioned, was due to the fact that he always wore the scarlet uniform of an officer of the hussars.

#### THE CONQUEST OF IRELAND.

Is it true that Pope Adrian IV. agreed to barter Ireland away to Henry II. on condition that he preserve the rights of the Holy See, and that the King of England, acting upon this, immediately set about taking possession of it? Give a full account.

FAIRMONT, Minn.  
I. MERRITT, JR.

*Answer.*—Very early in his reign, Henry II., King of England, formed the determination to subject Ireland to his rule, and only wanted a pretext to assert his claim to the sovereignty of the island. To secure this he had recourse to Rome, for at that time the popes claimed a right to dispose of kingdoms and empires, and especially of islands, according to a power alleged to have been conferred upon the Holy See by the Emperor Constantine. The reigning Pope then was Adrian IV. (Breakspear), the only Englishman who ever sat on the papal throne, and

he willingly accepted the opportunity of bringing the Irish church under the dominion of Rome. In the year 1155, therefore, he issued a bill in favor of Henry, giving him entire right and authority over Ireland. Various causes, however, prevented the King from putting his design immediately into execution. And subsequent circumstances seemed to show that even without the Pope's good offices, the conquest of Ireland was certain. Dermot Macmorrogh, King of Leinster, one of the five kingdoms into which the island was then divided, had carried off Derborghal, wife of O'Ruarc, Prince of the subordinate province of Leintrim. Her outraged husband secured the alliance of Roderic, King of Connaught, and with an army invaded the dominions of Dermot, and drove him from his throne. The exiled prince went to King Henry to beg assistance, and offered, in the event of his restoration, to hold his kingdom in vassalage under the crown of England. This was in 1168, and Henry at this time was in the thick of his great quarrel with Thomas a Becket and the Holy See, and was further embarrassed by an insurrection in his French provinces. He therefore could give to Dermot no direct assistance, but he gave him a letter empowering him to form an alliance with any English subject willing to aid him in the recovery of his dominions. Supported by this authority, Dermot made a bargain with Richard, Earl of Chepstow, surnamed Strongbow, by the conditions of which the Earl was to furnish the Prince with an army, and in the event of success in regaining his kingdom, Dermot was to give the hand of his daughter Eva to Strongbow in marriage and make him his legal heir. The Earl had no means to equip or pay soldiers, but in those days soldiers of fortune were easily found, who were ready to embark in any enterprise of this kind, looking to possible plunder as their reward. Dermot also secured the help of two Welsh knights, Robert Fitz Stephen and Maurice Fitz Gerald, and these in 1170 crossed over to Ireland and took the town of Wexford. In the following year Strongbow and his army landed on the island, took Waterford and Dublin, and reinstated Dermot in his kingdom. The rest of the compact was carried out. Strongbow married Eva, and by the death of Dermot, not long after, became master of Leinster. He now determined to extend his authority over the rest of Ireland. Roderic and the other princes gathered an army of 30,000 men to withstand him, but Earl Richard managed, with but ninety knights and a few hundred men, to surprise this large force with a sudden sally, throw it into a panic, and routed it from the field with great slaughter. This was early in 1172, and King Henry, hearing of it, determined to carry out his long-cherished project, and invade Ireland in person. Becket had been murdered, and Henry had been dreadfully afraid that the Pope would visit a special wrath upon him, but he had avowed his innocence, and it was not just then the policy of the pontiff to deal with him harshly, so his avowal and regrets had been graciously received. Henry, therefore, feeling safe from the Vatican thunderbolts organized his Irish expedition. He landed at Waterford with 400 knights and 4,000 followers, and found the Irish people so dispirited by their



late overthrow that on his journey through the island he met with no resistance, and he had only to receive the homage of his new subjects. The church represented by the clergy made full submission and agreed to alterations in their ritual to suit the English model. Henry stayed six months in Ireland and then, after appointing Strongbow seneschal or governor, returned to London in triumph. In this way the island became annexed to the English crown, and the King of England has ever since claimed, among other titles, that of Lord of Ireland.

## THE FORTUNE BAY OUTRAGE.

DUNDEE, ILL.

What were the circumstances of the Fortune Bay outrage, and when did it occur? D. S. LORINE.

*Answer.*—On Sunday, 1878, the crews of some American fishing smacks were attacked in Fortune Bay, Newfoundland, by some fishermen of the island. They compelled the Americans to desist from seining herring, in which they were engaged, and in the struggle the nets and fishing tackle were cut and destroyed. The fishing fleet then sailed for home, and laid the case before the authorities at Washington. They presented a bill for damage, which included not only the cost of their tackle and equipment, but the probable loss sustained by not being able to fish through the entire season, making a total claim of \$103,000. This claim was formally presented to the British government, but Lord Salisbury, then Minister for Foreign Affairs, refused to consider it. He gave his reasons in a communication in November, and these were based on the ground that the Americans were at the time engaged in drawing their seines from the shore, which was an infringement of the treaty agreement, which forbids American fishermen to trespass on private property. He also pleaded that the Americans were violating a provincial law against fishing on Sunday, and other laws prohibiting seining for herring on the coast between Oct. 20 and April 26, and requiring that seines shall be drawn immediately after being set. Secretary Evarts, in reply, contended that the rights given to the American fishermen by the treaty could not be limited by statutes of the local legislature. The final reply from the British government was not made until April, 1880, shortly before the retirement of the Beaconsfield ministry. In this the claim was refused on the same plea as above, that the Americans in pulling their seines from inshore were violating treaty stipulations. It was also claimed that the local laws violated were in force when the treaty was concluded, and were part of the conditions under which treaty privileges were accorded. In answer to a further communication from the United States State Department, Lord Granville also insisted on the construction that local laws must be binding on both American and Canadian fishermen.

## JULIUS CÆSAR'S WIVES.

CAMBRIDGE, ILL.

How many wives had Julius Cæsar and what were their names? STUDENT.

*Answer.*—Julius Cæsar had four wives. The first was named Cosutia, and he must have married her when very young, for when he was 17 years old, in the year 83 B. C., he divorced her in

order to marry Cornelia, the daughter of Cinna, a leader of the democratic party. His aunt Julia having married Marius, the foremost chief of the people's party, young Cæsar was doubly allied to that faction. Sulla, the patrician leader, endeavored to induce the young man to repudiate his wife, and as he would not do this, took from him both his fortune and his office. Sulla was induced by influence to withdraw his proscription, though unwillingly, remarking that he saw "in that perfumed youth a hundred Mariuses;" but Cæsar did not return to Rome until after the tyrant's death. Cornelia died in 68 B. C., and the following year Cæsar married Pompeia, a relative of Pompey and a granddaughter of Sulla. She was divorced in B. C. 61, under the following circumstances: The Roman women held annually on the 1st of May a festival to the Goddess of Earth, or the Bona Dea. No men were allowed to be present at these festivals under pain of death. In the year mentioned the matrons met at the house of Cæsar, and a young man, named Publius Clodius, managed to obtain admittance, in the disguise of a female musician. He was, of course, detected, and as Pompeia was known to be friendly toward the young man it was supposed that she had connived at the sacrilege, and had admitted the youth for criminal purpose. Cæsar made no charge against either his wife or Clodius, and when the latter was brought to trial for impiety, he would not give any testimony against him; nor would he admit to his friends that he believed the parties to be guilty, but he put away his wife, saying, "The wife of Cæsar should be above suspicion." The last wife of the great Roman was Calpurnia, the daughter of Lucius Piso, whom he married B. C. 59, and who survived him.

## COMPRESSED AIR AS A MOTOR.

RENSSELAER, IND.

Describe the machinery used to compress air. To what purposes is compressed air applied? C. J. B.

*Answer.*—An engine worked by compressed air can never be a prime motor in itself, since the air which propels it must be compressed by another power—either steam, electricity, falling water, or animal force. Machines for compressing air are of different kinds, but work essentially on the principle of the force-pump. There are several ways of applying this compressed air. One is to fill with it a large, strong cylinder or reservoir, and use it to work a piston in the same way that steam is used. Another is to conduct the air from the prime motor in tubes to several smaller engines. In the construction of the Mont Cenis Tunnel the hydraulic power of a cataract near the entrance of the tunnel was used as a prime motor to compress air in reservoirs, whence it was conducted by flexible tubes to work the rock-boring machines. Compressed air engines are used very generally both in the United States and in Europe, their great advantage being that in place of escaping heat and steam, which would seriously vitiate the close air in the shaft, the working of the engine gives out pure cold air, serving also the purpose of ventilation. The boring of such tunnels as the Mont Cenis, the St. Gothard, the Hoosac, and others would be quite impracticable without drills worked by atmos-

pheric engines. When this boring is done by percussion of steel drills the atmospheric pressure moves a piston connected with them. When the boring is performed by rotation, as is the case with the diamond drill, the atmospheric engine is either a rotary or reciprocating one. The arrangement of atmospheric engines is largely identical with that of non-condensing steam engines. Another important application of compressed air machines in tunnels is to work the trucks for removing the debris caused by the work of excavation. These machines were first introduced in the digging of the St. Gothard Tunnel and were found very successful, working much more rapidly than horses or mules and much more safely than steam. Another application of compressed air is in the pneumatic tube, which the reader will find described at length in *Our Curiosity Shop* book for 1884. Compressed air is also used with steam as a motor. Air, when compressed greatly, becomes very hot, and if it is then forced through hot water it becomes saturated with steam, and this steam and air are found to have enormous expansive power. This motive power has been very successfully applied to the propulsion of street cars. There are also works of some note recently completed in Paris, for making compressed air to be distributed to various parts of the city. These works cover an area of 15,000 square meters, of which an extent of 2,000 meters is roofed over. There are already fixed and in operation seven steam engines of 400 horse-power, and two of 100 horse-power each, a total of 3,000 horse power. The conduits have been laid over the whole area comprised between the line of the boulevards and the Rue de Rivoli. These are sometimes laid in trenches cut for the purpose, and sometimes in the sewers. The total length of pipes laid was, at the end of December, 1887, a little over thirty miles. This source of power is used for working electric light machinery in a large number of establishments in the city.

#### JOHN OF BARNEVELDT. FLORA, III.

Give some facts of the life and death of the elder Barneveldt; he was executed, and what for?

READER.

*Answer.*—John Barneveldt the elder was born in the province of Utrecht in 1547. He came of an old and illustrious family. Early showing remarkable talents, he was educated for the profession of law, and began practice at The Hague in 1569. So ardent was his sympathy with the efforts of his countrymen to throw off the hated yoke of Spain, that he served as a volunteer in the sieges of Haarlem and Leyden. In 1585, when the reverses of the patriots had nearly robbed them of courage, Barneveldt was sent to England to ask aid from Queen Elizabeth. In this embassy he was successful, and an expedition was fitted out under Lord Leicester, and sent to aid the Dutch. The English general was invested with supreme authority, but used his powers so unwisely that he was recalled in 1586. Barneveldt having been given the high office of Advocate General of Holland, by his prudent management, succeeded in greatly improving the financial affairs of the states. It was his influence that secured for young Prince Maurice, of Nassau, the office of stadtholder, a

kindness which the young man later requited by becoming Barneveldt's most bitter enemy. In 1598 Barneveldt was sent on an embassy to France, and secured the alliance of that country and in 1603 he also secured from James I. of England a promise of friendship and continued aid. But in 1607, having secured a recognition of the independence of the provinces, he advocated a truce with Spain, being convinced that further bloodshed would bring no advantage to the country. In this plan Prince Maurice opposed him, and accused him of having taken bribes from the Spanish court. But Barneveldt triumphed over all opposition, and in 1609 the famous twelve years' truce was concluded. From this time Maurice was his sworn foe. The two men were leaders of two great parties, opposed not only on civil but on religious questions. Maurice desired the sovereign power, and therefore his party clamored for the restoration of a monarchy, but Barneveldt resolutely maintained the freedom of the republic. The clerical party, which sided with Prince Maurice, was bent on having Calvinism established as the state religion, and on refusing toleration to other religions; Barneveldt and the Arminians contended that each province should be left free to adopt the form which it preferred. The clerical party incited attacks on the Arminians and when Barneveldt called together the militia to suppress the disorder Maurice disbanded it. Aug. 23, 1618, Barneveldt and two of his chief friends were arrested and imprisoned. In November following the famous Synod of Dort was called by Maurice, which condemned the Arminian doctrines as rank heresy. Barneveldt and his friends were put on trial by a special commission during the session of the synod. The manner of the proceedings was wholly illegal and all the charges against Barneveldt were fully disproved, but it was determined that he should die and the farce of a trial was soon closed with his conviction. He was found guilty among other things of "having brought the church of God into trouble," and his death sentence was unscrupulously confirmed by the synod. On May 14, just five days after the closing of the synod, the venerable statesman and patriot was beheaded at The Hague, meeting his death without a word of regret or a sign of fear. His two sons sought to avenge his death some years after by joining in a plot against Prince Maurice. This was, however, unsuccessful, and one of the young men was arrested and put to death, while the other escaped and entered the Spanish army.

#### PUTNAM'S FAMOUS RIDE.

RIDGEFIELD, III.

Give full information concerning Putnam's ride down a precipice in 1779.

J. T. BARDEN.

*Answer.*—The story is told thus: One day in March, 1779, General Putnam, who had his headquarters at Horse Neck, was shaving before his mirror. Suddenly there appeared in the glass before him the reflection of a body of British soldiers coming up the road. Dropping his razor and grasping his sword he rushed out of the house, sprang on his horse, and hurriedly brought his men together on a hill near by to resist the advance of the enemy. The British force was so large, however, that he could not hold out against



it with his little handful of men, and, ordering his soldiers to scatter into a neighboring swamp, he spurred his own horse over a precipice and descended a zig-zag path, where the British dragoons did not dare to follow. The British general, Tryon, who was in command of the English, plundered the people in the vicinity and then went back to King's Bridge. But by this time Putnam had got his men together again and was in hot pursuit, and on the way succeeded in recapturing nearly all the booty.

## CHINCH BUGS.

Tell me about the chinch bug, its origin, peculiarities, etc.

RADCLIFFE, IOWA.  
WILLIS E. LINK.

*Answer.*—The chinch bug belongs to that order of insects that have the anterior wings or wing covers transparent toward the end, the true wings straight and unplaited, and that feed on vegetable or animal juices by means of a sucking tube. It is about one-seventh of an inch long, with white wing covers, upon each of which is a short central line and a large marginal oval spot of black; the remainder of the body is black and downy; the beak, legs, base of antennæ, and hinder edge of thorax is a reddish-yellow, and the fore part of the thorax is grayish. The young are without wings, and at first are a bright red, and change gradually to the colors of the adult. The eggs are laid in the ground, and the young appear on the wheat generally about the middle of June. There are two broods in a season, the second one, which appears in the fall, hibernating. The favorite place for this retirement is any rubbish, grass, straw, fodder, or manure pile, from which the hibernates issue in the spring. The remedies tried have been numberless, but nothing has been wholly effectual. Professor Forbes has found kerosene an excellent specific. Much cold rain destroys them to a great extent. Several species of lady-bird are their enemies.

## BRITISH AND GERMAN ROYAL FAMILIES.

HAMPTON, IOWA.

Give the name and age of the members of the Royal families of England and Germany.

CORA ALLINSON.

*Answer.*—1. The British Royal family's surviving members are: Queen Victoria, whose sons and daughters are: (a) Princess Victoria, (Empress of Germany), born Nov. 21, 1840; (b) Albert Edward, Prince of Wales, born Nov. 9, 1841, married to Princess Alexandra, eldest daughter of King Christian II, of Denmark; (c) Prince Alfred, Duke of Edinburgh, born Aug. 6, 1844, married to Grand Duchess Marie, of Russia, only daughter of Emperor Alexander II. and sister of the Czar; (d) Princess Helena, born May 25, 1846, married to Prince Christian of Schleswig-Holstein; (e) Princess Louise, born March 18, 1848, married to the Marquis of Lorne; (f) Prince Arthur, Duke of Connaught, born May 1, 1850, married to Princess Louise of Prussia; (g) Princess Beatrice, born April 14, 1857, married to Prince Henry of Battenberg. 2. (a). Emperor Friedrich Wilhelm was born Oct. 18, 1831, married to Princess Victoria, of Great Britain. (b) Princess Louise, born Dec. 3, 1838, married to Grand Duke Friedrich, of Baden. 3. The number of children of these two families is

large, the Prince of Wales having five children, the Duke of Edinburgh five, Princess Helena four, the Duke of Connaught three, Princess Beatrice three, and the Emperor of Germany has six sons and daughters.

## THE KINGS OF SCOTLAND.

BENNINGTON, Kan.

Give the line of Scotch kings from the formation of the kingdom down to James VI., with date of accession and line of descent.

SCOTCHMAN.

*Answer.*—The early history of Scotland is mainly made up of tradition. When the Romans held the country south of the rivers of the Forth and Clyde the northern part of the island was inhabited by the Picts and Scots. These tribes were both of Celtic origin. The Picts were thought to have come to the island from the continent of Europe, but the Scots are known to have come from Ireland. The legends give a series of kings carried back as far as Alexander the Great, but the names are no doubt largely fictitious. The first invasion of the Scots into Britain is placed about 330 B. C., when, tradition says, a brave prince, Fergus I., came over with an army, defeated the king of the Britons, and entailed the conquered territory on his posterity forever. Fergus was drowned in the Irish Sea twenty-five years later, but his family held the kingdom of the Scots uninterrupted for 706 years. They were driven from the throne by Maximus, the Roman general, in 357 A. D. An interregnum of forty-seven years followed, after which the dynasty was restored in the person of another Fergus, called in Gaelic annals Fergus II. After this point the line of Kings can be traced down to modern times, though it must be admitted that even probable history hardly begins before the union of the Pictish and Scottish Kingdoms in the ninth century.

NAME OF KING.	Le'gh reign.	Line of Descent.
Fergus II.....	404-420	.....
Eugenius II.....	420-451	Son of Fergus.
Dongardus.....	451-457	Brother of Eugenius.
Constantine I.....	457-479	Brother of Eugenius.
Congallus I.....	479-501	Nephew of Constantine.
Goranus.....	501-535	Brother of Congallus I.
Eugenius III.....	535-558	Nephew of Goranus.
Congallus II.....	558-569	Brother of Eugenius III.
Kinnatellus.....	569-570	Brother of Eugenius III.
Aidanus (Aldan).....	570-600	Son of Goranus.
Kenneth.....	605-606	Son of Congallus II.
Eugenius IV.....	606-621	Son of Aidanus.
Ferquhard I.....	621-632	Son of Eugenius IV.
Donald IV.....	632-646	Son of Eugenius IV.
Ferquhard II.....	646-664	Son of Ferquhard I.
Malduinus.....	664-684	Son of Donald IV.
Eugenius V.....	684-688	Son of Donald IV.
Eugenius VI.....	688-698	Son of Ferquhard II.
Amberkeletus.....	698-699	Nephew of Eugenius VI.
Eugenius VII.....	699-715	Brother of Amberkeletus
Mordachus.....	715-730	Son of Amberkeletus.
Ettinus.....	730-761	Son of Eugenius VII.
Eugenius VIII.....	761-764	Son of Mordachus.
Fergus III.....	764-767	Son of Ettinus.
Solvathius.....	767-787	Son of Eugenius VIII.
Achais.....	787-819	Son of Eugenius VIII.
Congallus III.....	819-824	Son of Eugenius VIII.
Dougal.....	824-831	Son of Solvathius.
Alpine.....	831-834	Son of Achais.

It may be remarked, concerning the above table, that while the lineage of the kings may be given with approximate accuracy, the lengths of their reigns are quite uncertain. So many of these princes are known to have died by violence that

the method of extending each reign to the beginning of the next conveys a probably altogether incorrect impression. Nor is it known whether all of these princes held rule over all of the Scottish kingdom. It is altogether probable that a number of them held a mere shadow of regal power, or perhaps but a fraction of the Scottish territory, for it is known that in the almost continual struggle that went on between the Scots and their neighbors, the Picts, first one and then the other held supremacy. Then the kings held power in both the tribes, on sufferance, as it were, of the powerful nobles. When a monarch did not rule to suit the powerful aristocracy, they incontinently put him out of the way and managed the kingdom after their own ideas until it was convenient to put another puppet on the throne. About 731 Angus, King of the Picts, conquered the Scots in a fierce battle and forced them to pay tribute. The galling yoke thus laid on the Scots was not broken until young King Kenneth, surnamed Mac Alpine—who had succeeded to the throne when the Picts had put his father to death in 834, on the charge of disloyalty to his "over lord"—defeated the Pictish army in a pitched battle in the year 844. The King of the Picts was killed in the fight, and Kenneth therefore united the conquered tribe with the Scots under one rule, and became the first sole monarch of the country, which he called Scotland. In the table of kings continued below, two Roman numerals are sometimes given, to indicate the order of the monarch, both as king of ancient and of medieval Scotland:

NAME OF KING.	Length of Reign.	Line of Descent.
Kenneth Mac Alpine.....	834-860	Son of Alpine.
Donald I. (V.).....	861-863	Brother of Kenneth
Constantine I. (II.)..	863-877	Son of Kenneth.
Aodh.....	877-879	Son of Kenneth.
Eocha.....	879-893	Son of a daughter of Kenneth. The real ruler was his tutor, Gregory, who was wise and just, but both were expelled
Donald II. (VI.)....	893-900	Son of Constantine I
Constantine II. (III)	900-942	Son of Aodh.
Malcolm I.....	942-953	Son of Donald II.
Indulf.....	953-961	Son of Constantine II.
Duff.....	961-965	Son of Malcolm.
Colin.....	965-970	Son of Indulf.
Kenneth II.....	971-994	Brother of Duff.
Constantine II. (III)	994-995	Son of Colin
Kenneth III.....	995-1003	Son of Duff.
Malcolm II.....	1003-1033	Son of Kenneth II.
Duncan I.....	1033-1039	Son of daughter of Malcolm II.
Macbeth.....	1039-1056	Cousin of Duncan.

phanan, where his opponent, young Prince Malcolm, was aided by Tostig, son of Godwin, the great Saxon Earl who had gained so much influence over the English king, Edward the Confessor. With the accession of this prince, known as Malcolm Canmore, to the throne, a new and clearer era of the history of Scotland begins. The young King had been educated at the English court, and the effect of the civilization of the English upon manners, laws, etc., in Scotland can be plainly traced from this date.

NAME OF KING.	Length of Reign.	Line of Descent.
Malcolm Canmore(III)	1057-1093	Son of Duncan.
Donald Bane (VII)....	1093-1094	Brother of Malcolm.
Duncan II.....	1094	Son of Malcolm.
Donald Bane (VII)....	1094-1097	Was driven from the kingdom, but returned; had Duncan murdered and again usurped the throne.
Edgar.....	1097-1107	Son of Malcolm.
Alexander I.....	1107-1124	Brother of Edgar.
David I.....	1124-1153	Brother of Edgar.
Malcolm IV.....	1154-1165	Grandson of David.
William the Lion.....	1165-1214	Brother of Malcolm.
Alexander II.....	1214-1249	Son of William.
Alexander III.....	1249-1285	Son of Alexander II.

Both of King Alexander's sons died young. His only daughter had been married to Erik, of Norway, and the Scottish Parliament recognized his child, Margaret, "though a female, an infant and a foreigner," as the heir to the throne of Scotland. A regency administered the affairs of the kingdom for a few years, and then the young Queen was sent for. She was then just 12 years old, and it was intended to marry her to the son of King Edward, of England. But she died on the passage from Norway to Scotland. There was now a competition for the vacant throne and the question was referred to King Edward. The principal contestants were three descendants of David, the brother of William the Lion. John Baliol was grandson of David's oldest daughter, Robert Bruce was son of the second daughter, and David de Hastings was grandson of the third daughter. Edward decided in favor of Baliol, who was crowned at Scone in 1292. He ruled the country weakly for a few years, and in 1296, in a struggle of the Scotch to throw off the English yoke, the impotent monarch was taken prisoner and carried to London. He lived in England and France for twenty years, but never made another effort to regain his kingdom. Edward I, of England, now determined to rule Scotland as a conquered kingdom, but found the task difficult. In 1297 began the rebellion headed by Sir William Wallace. When this noble hero was put to death as a traitor in 1305, his place as leader of the Scottish armies was taken by Robert Bruce, who was crowned king of Scotland in 1306. The independence of Scotland was determined by the memorable victory of Bannockburn, June 24, 1314, and Robert Bruce ruled the country with wisdom and justice for fifteen

Up to the date of the usurpation of the throne by Macbeth, histories differ so much as to the number of the kings, the dates of their succession, and the circumstances of their rule, that critics hesitate to pronounce any account as precisely correct. How long the usurper Macbeth held power is not certain, but probably about seven years. He does not seem to have suffered any of the terrible remorse for his evil manner of gaining the crown that Shakespeare so finely imagines, but he made quite a sagacious and able ruler. He was killed in 1057 at the battle of Lum-



years more. On his death, in 1329, the succession passed to his young son, David II., during whose term of minority the affairs of the kingdom were administered by a regency. During this time, Edward, the son of John Baliol, having obtained the favor and aid of the King of England (Edward III.), invaded the country, overthrew the army sent by the King against him, and having obtained a large following among the Scottish people he was crowned at Scone in 1332. The young King, then but 11 years old, fled to France, where he remained until 1339. The struggle for independence had been renewed in Scotland, for Edward Baliol represented vassalage to the hated ruler of England. A successful uprising in 1341 made it necessary for Baliol to leave the kingdom and take refuge in England, and David now returned and assumed the reins of government. Had he brought any wisdom or vigor to the work of administration he might have retained the throne, but though his purposes were upright he was only a feeble ruler. In a very ill-advised invasion of England in 1346 he was defeated at the battle of Neville's Cross, taken prisoner, and was held in captivity for eleven years. During this time the English government recognized Baliol as nominal ruler, but the government was really administered by Robert the Steward, a son of Robert Bruce's daughter Marjorie. David came back to Scotland in 1357, and again assumed the government, but his weakness and subservience to the English King brought him into much disfavor with the people. When he died in 1370, leaving no children, the succession passed with general approval to Robert the Steward, who had so long served as regent. With him began the famous Stuart family, whose reigns we give in the following table:

NAME OF KING.	Length of Reign.	Line of Descent.
Robert II. ....	1371-1390	Nephew of David II.
Robert III. ....	1390-1406	Son of Robert II.
James I. ....	1406-1437	Son of Robert III. (Held prisoner in London for eighteen years; government carried on by a regency)
James II. ....	1437-1460	Son of James I.
James III. ....	1460-1488	Son of James II.
James IV. ....	1488-1513	Son of James III.
James V. ....	1513-1542	Son of James IV. (Succeeded in infancy, government in hands of regency).
Mary (Queen of Scots) .....	1542-1567	Daughter of James V.
James VI and I of England....	1567.	Son of Mary.

The reader will find a full history of the Stuart family, giving details of succession, etc., in Our Curiosity Shop book for 1885.

#### HOW MINERAL VEINS WERE FILLED.

FAIRVIEW, N. M.  
Give the theories as to the manner in which the fissures of the earth have been filled with mineral.  
A. MAXER.

*Answer.*—The manner in which the minerals of the earth have been deposited in veins has been a matter of much discussion among geologists, and

several theories have been advanced in explanation. Of these, five are worthy of note, the theory of injection, of aqueous deposition, of lateral secretion, of sublimation, and of chemical precipitation. The theory of injection was held at the time when philosophers were accustomed to ascribe all the great changes in the earth's surface to the action of heat. It should be noted, however, that there are very few mineral veins whose materials can be regarded as even the possible product of fusion and most of them contain minerals that never could have been formed in the presence of great heat. When the veins on the south shore of Lake Superior which contain great masses of copper, were first described, they were considered as remarkable examples in proof of the aqueous theory, but as masses of native silver are formed in these copper veins, both metals being distinct, and nearly pure chemically, it was plain that the veins could not have been filled by the action of heat, as these metals in that case would have united in the form of an alloy. After the theory of heat action came the theory which ascribed all or nearly all geological phenomena to the action of water. It was suggested that fissures opened up into seas and other water basins, and that the vein material was deposited from water as limestone and other sedimentary rocks are laid down. But a fatal objection to this theory is that we never find the materials composing true fissure veins horizontally stratified, after the manner of aqueous sediment, but on the contrary these materials are often deposited vertically. According to the third theory, that of lateral secretion, the materials of mineral veins have been derived from adjacent rocks by percolation through the walls of the vein. If this theory were correct, the contents of mineral veins would be found to change with every stratum through which they pass, whereas, in fact, throughout the course of a mineral vein it is usually found of the same composition, no matter through what a variety of strata it may pass. Further, two systems of veins cutting through the same strata have contents that are entirely diverse, and two veins crossing each other are often seen to be of different ages, and to be composed of materials so different that they must have been derived from different sources. Other theorists have accounted for the filling of fissure veins on the supposition that the metals therein were deposited in the form of vapor. Most of the minerals can be vaporized at a very high temperature, and some of them, as zinc, arsenic, and mercury, are sublimed at a temperature that is comparatively low. Fissures around a volcano crater are often found filled with minerals that have plainly been driven into these openings in the form of vapor. It is true that there is evidence that mercury deposits have been often so formed, but such deposits differ greatly from the distinctly limited, banded, and crystallized matter that fills what we know as mineral veins. The latest theory, and the one generally accepted by the best informed students of science, is that the deposition of mineral matter is due to chemical precipitation. According to this theory, the fissures are first filled with water, usually flowing from sources deep in the earth, where, highly

heated and under great pressure, it becomes charged with mineral substances. As it approaches the surface and the temperature and pressure are reduced, the minerals which it had in solution are precipitated on the sides of the channel. The extensive deposits of various minerals on the walls of thermal springs seem to show that this theory is sufficient to account for mineral veins. Water or steam, holding in solution sulphur, fluorine, and chlorine, and highly heated, might dissolve any minerals with which it came in contact. The formation of geodes, of stalactites of iron and lead in large mines, and of stalactites of lime in caves seems to prove that solutions of mineral matter are constantly flowing through the rocks beneath the surface of the earth.

#### HOW LEAD PENCILS ARE MADE.

MARIN, Mich.

How are lead pencils made, and are they made of lead, or only a graphite?

R. LEWIS,

*Answer.*—Lead pencils are now altogether made of graphite. The industry has come to be quite an important one, as the people of this country use up about 250,000 pencils per day, or some 90,000,000 in a year. The graphite is taken in lumps to the stamp mills, and is there pulverized under water. It is taken to the factory in the form of dust and there separated according to fineness by repeated washings. The coarsest and heaviest particles settle to the bottom of the first tub, and so on to the last which has only the very finest powder. This is so fine and soft that it can be taken up in the hand like water, but can scarcely be retained in the hand any more than water can. This powder is now mixed with clay—a peculiar pipe clay brought from Germany, being used by the best manufacturers—in proportions varying according to the degree of hardness required. The more clay used, the harder the pencil. The graphite and clay are mixed together with water to the consistency of thick cream, and the mixture is fed to the grinding mills, which consist of two flat stones, about two feet in diameter, placed horizontally, only the upper one running. Between these the mass is ground like paint, for the finest pencils as many as twenty-four times, thus securing the most perfect strength, uniformity, and freshness from grit in the leads. After grinding, the mass is inclosed in stout canvas bags, and the clear water forced out by hydraulic pressure until it becomes a thick dough. It then goes to the forming press. This is simply a small, vertical iron cylinder, having a solid plunger or piston driven by a screw. A plate is inserted in the bottom, having an opening of the size and shape of the lead desired, and the graphite is slowly forced through the hole, exactly as water is forced from a syringe, coiling itself round and round like a coil of wire on a board set beneath the press. The coil is taken up at intervals, "rove" off straight by the hands in lengths sufficient for three leads, which are straightened out, laid in order on a board and pressed flat by putting a cover over them. They are finally hardened by placing them in a crucible and baking in a kiln. The handling must be done expeditiously, as the leads begin drying immediately, and become brittle as they dry; but on first issuing from the press they are so plastic that knots may be tied loosely in

them. The leads are now ready for their wooden cases. For the cheapest pencil pine is used, for common grades an ordinary quality of red cedar. At the sawmills the cedar is cut into blocks, about seven inches long, and these are sawed into strips about three and one-half inches wide and three-sixteenths of an inch thick. The pencils consist of two parts glued together with the lead between them. Each strip is wide enough to make the halves of six pencils. The pencils are made six at a time, and imperfect strips are put together so as to make a full strip out of the parts. When these boards (which are now ready for shaping) reach the factory, they are first passed into a continuous line, under a cutter which cuts six little grooves, round or square, for the leads, and smooths the faces by the same stroke. The lead in the foreign pencil lies wholly in one-half of the wood, the other slip being put on as a cover, as nearly everybody has found occasion to know by the covers coming off and leaving an unpleasantly flat surface; but the American method has got the groove equally in each strip. Accordingly the two strips are glued alike. Filling the leads is done by girls sitting at brass-covered tables. The first takes a grooved slip with her left hand and a bunch of leads in her right. Spreading these out in her fingers like the sticks of a fan, she dexterously lays them in the grooves and passes the filled slip to the girl at the left, who puts over it another slip which has just received a coating of hot glue from a brush wielded by a third. Any two slips fit together, and the united pairs are laid in a row and pressed together in an iron frame by a screw, and the row of slips is left to dry. The rough ends of the slips and the projecting parts are next ground smooth against a wheel covered with sand-paper, and are then ready for the purpose of separating and shaping, which is done by machinery.

#### HOW OLIVE OIL IS MADE.

MENTONE, Mich.

Where is olive oil most largely produced, and how is it made?

STUDENT.

*Answer.*—The common olive (*oliva Europæa*) was one of the earliest trees mentioned in ancient history. It was a native either of Syria or Greece, and was introduced into other countries at a very early day. The mythological legend says that the tree first sprang from the earth at the command of Minerva, and it was therefore held sacred to that goddess. The tree was first introduced into Italy about the year 550 B. C. At first its cultivation there seems to have been very slow, for as late as 243 B. C. the oil was very expensive in Rome, and seemed to have been regarded as an article of luxury. Two centuries later, however, it had fallen to less than a tenth of its former value, and soon after Rome began the exportation of the oil. Italy is now by far the chief olive-producing country of the world. Spain comes next in importance, but a long way behind. The tree is grown to some extent in all the countries of Southern Europe, Northern Africa, and Western Asia. It was also brought to South America and Mexico about two hundred years ago, and to Southern California by the early Spanish missionaries, and flourishes in these countries. It has also been grown successfully in



the Southern States of the Union. But for the olive oil of commerce the world's dependence is Italy, and for the best grades of the oil we look largely to a single Italian province, that of Tuscany. There are many varieties of olive trees, but they may all be ranged into three classes, thus: First, trees but little different from the wild olive, of standard growth and scant foliage, whose fruit is small and deficient in pulp, and yields only a small quantity of rough oil, somewhat bitter in taste. Second, trees of vigorous growth, with dense, dark-colored foliage, with large, pulpy fruit, much used for pickling, but yielding only a coarse and heavy oil. These trees need a rich soil, and are very sensitive to frost. The third class may be described as intermediate between the other two in size and foliage, and it has all the hardness of the first class and the prolific quality of the second, without the objectionable qualities of either. These trees give fruit that yields the fine oils of commerce. The Razzo olive, which is par excellence the type of the best class of olive tree, prevails almost to the exclusion of all other varieties in Lucca and Pisa in Tuscany, which are famed for their fine oils. It is also to be found to some extent, together with similar but inferior varieties, in the districts of Bari, Riviera, and Nice. The olive harvest begins in the south of Italy in October, but later in the northern provinces, and generally the time of gathering the fruit and pressing it may be said to extend from October to the following April, or even later. Sometimes the fruit is allowed to hang on the trees until it falls from ripeness, or will fall at a touch, but for the best quality of oil the olives must be plucked before they reach this over-ripe stage. At the time of full maturity they are gathered by hand, and so handled as to avoid as far as possible any danger of bruising them. The idea prevails that the different grades of olive oil result from the degrees with which the oil is passed through a refining process. But the fact is, the difference mainly exists in the original quality of the oil itself. For instance, if the fruit is unripe when pressed, it is of greenish color, and has a rough peppery taste. If, on the other hand, the fruit is over-ripe, the oil is pale, deficient in flavor, and with a tendency to become rancid. As understood by dealers, especially in Italy, the home of its production, the quality of olive oil is due to the condition of the fruit when pressed, and the carefulness used in the process of oil-making. To obtain fine oil the fruit must be quite ripe, sound, freshly gathered, and promptly crushed and pressed before any fermentation can ensue. A supply of pure water is also necessary, and the mills, presses, and various utensils, must be absolutely sweet and clean. The common grades of oil result from an absence of one or all of the above conditions. Sometimes the fruit is kept for some time before it is pressed, in the mistaken idea that a greater supply of oil can then be obtained from it, but the result is an oil, which, though in favor in Italy, especially among the peasantry, is of little value in commerce, because of its rank taste. In Tuscany, where the finest olive oil is made, great attention is given to the process of making it.

It is usually made in small mills, for the necessity of pressing the olives as soon as possible after picking them, and giving them as little handling as possible, renders it the better way to have the oil made on a comparatively small scale. As soon as the fruit is gathered it is brought to the mills. If the olives can not be pressed immediately they are laid out on an upper floor, but in no case are allowed to remain there more than twenty-four hours. The millstones and troughs are all made of cut stone, cemented externally. This is to prevent any absorption of the oil by the stone, which would in time greatly deteriorate the product. The fruit, pulp and stones together, is first crushed by the millstone; the pasty substance thus obtained is put in a bag made of rushes, which is placed under the oil press. Clear, cold water is poured in a steady stream into the presses to hasten the flow of oil. The oil and water are then carried off into a receiving vessel, and the oil rising to the top is skimmed or drawn off from time to time. The first pressing of the fruit yields much the best oil. The best quality of olive oil has a golden green color, a faint but agreeable odor, and a bland taste, which, however, leaves a slight sense of acidity in the throat.

#### STORAGE OF ELECTRICITY.

**HOPKINS, Mo.**  
Explain how electricity can be packed in a small compass and stored for future use. **QUEBEC.**

*Answer.*—It must be noted, to begin with, that the term "storing electricity" conveys, usually, an altogether erroneous idea to the uninitiated. They are apt to conceive of it as pouring electricity into some receptacle, as we pour oil into a lamp, to be used when needed. But, in fact, electricity is an energy, not a substance, and therefore is not capable of storage, in the ordinary sense. What is really done by the "storage" apparatus is to convert electricity into chemical energy, under such circumstances that, by proper arrangements, it may be readily converted back into electricity. The secondary batteries used for the storing purpose are more correctly termed accumulators. The first battery of this kind was made by Ritter about 1840, and it consisted of a series of disks of a single metal, alternated with cloth or card moistened in a liquid by which the metal would not be affected chemically. In 1859 Mr. Gaston Plante made a secondary battery, for which he used plates of lead, instead of plates of platinum. Passing a current through these, lead oxide was deposited, and after the charging current was removed, the lead and lead oxide were found to yield a very slight current. To increase this Plante devised the plan of first charging the plates, then discharging, then charging again with the battery current reversed, and so on, until by repeated oxidations and subsequent reductions of the oxidized material, very porous plates were made. These, by their porosity, exposed a large surface to the oxidizing action of the current, so that a small porous plate took up as much electricity as one of large superficial area. Plante found that by connecting a number of cells together, and after charging them, arranging them in series, that is, the positive plate of one connected with

the negative plate of another, and so on, he could store for use quite powerful currents of electricity. In 1880 another electrician, M. Camille Faure, devised the plan of coating Plante's lead plates with red lead, and then encasing them in flannel. The advantage of the red lead is that it is very quickly made porous, and therefore the process of repeated charging of the plates, known as the "forming" process, was reduced from weeks to days, and even to hours. This discovery by reducing the time and expense of making the secondary battery, gave it a commercial value that it never had before, and it was hailed as a great advantage. Since that time a number of patents have been obtained for storage batteries, and they now exist in different forms, but generally modeled on the inventions of Plante and Faure. The efforts of inventors have been mainly directed toward reducing the weight of the cells and to devising new ways of holding the red lead on the plates. This last-named substance, becoming porous, drops off readily, and for this reason the encasements of flannel, etc., were first devised. In some of the storage batteries, a plate, or frame, of cast lead is used, with receptacles, cells, etc., which are filled with the red lead.

#### ROBERT BROWNING.

MOUNT VERNON, Iowa.  
Give a sketch of Robert Browning, the poet.  
A. M. WALKER.

*Answer.*—Robert Browning was born at Camberwell, a suburb of London, in 1812. He was educated at the University of London. He went to Italy immediately after completing his university course and remained there some years studying the literature of the country and the people. The effect of this study is distinctly seen in his poetry. His first poem, "Paracelsus," was printed in 1835. It was in dramatic form, and its theme was the life of an alchemist of the sixteenth century. This poem did not attract general attention, but was welcomed by the students of poetry as the work of an original mind, from which greater things might be expected. In 1837 a tragedy from his pen, "Strafford," was given on the stage in London, but in spite of the fine acting of Macready, who took the principal character, it was not a success. In 1840 he published "Sordello," a work which was terribly scored by critics, and which by the poet's own wish was omitted subsequently from the collective edition of his poems. He had a second tragedy, "A Blot in the Scutcheon," brought out on the stage in 1843, and a third play, "The Duchess of Cleves," several years later, but none of his dramas proved successful in acting. In November, 1846, Mr. Browning was married to Elizabeth Barrett, the poetess. They spent much of their married life on the continent, chiefly in Italy. Mrs. Browning died at Florence in 1861, and soon after her death Mr. Browning returned to England with their only child, a son, and since then has resided in or near London. Mr Browning's other works, with date of publication, are as follows: "Bells and Pomegranates" (1843); "Christmas Eve and Easter Day" (1850); "Men and Women" (1855); "The Ring and the Book" (1869); "Balaustion's Adventure" (1871); "Prince Hohensteel-Schwangan"

(1871); "Fifine at the Fair" (1872); "Red Cotton Nightcap Country" (1873); "Aristophanes' Apology" (1875); "The Agamemnon of Æschylus" (1877); "La Saisaz" (1878); "The Two Poets of Croisic" (1878); "Dramatic Idylls" (first series, 1879; second series, 1880), and "Jocoseria" (1883).

#### HELEN HUNT JACKSON.

CHICAGO.  
Give a brief sketch of the life of Helen Hunt Jackson.  
S. W. GAUNTON.

*Answer.*—This noted author was a daughter of Professor N. W. Fiske, of Amherst College, Mass., and was born in the town of Amherst, Oct. 18, 1831. She received a liberal education, and married, in early womanhood, Major Edward B. Hunt, of the United States navy. Major Hunt was killed in October, 1863, while experimenting with submarine apparatus, at Brooklyn Navy Yard. Their only child, a bright and beautiful boy of about 10 years of age, died the following year. The double bereavement seemed to nearly crush the life of the young mother, and for several years she withdrew from all society. While in her retirement she first began to write for the press under the pen name of "H. H." She had a pleasant, graceful style, and much literary taste, and thus her writings—though hardly bearing the stamp of genius—were very successful. As a poet she showed considerable power. In 1876 she was married to Wm. S. Jackson, a banker of Denver, Colo. President Arthur appointed her a special commissioner to inquire into the condition of the mission Indians of California, and in this work she manifested most ardent zeal and devotion to the interests of the red men. She wrote two books on the Indian question—"A Century of Dishonor" and "Ramona,"—and her desire to improve the character of the legislation concerning Indian affairs was very great. While engaged heart and soul in this endeavor her work was ended by death at San Francisco, Cal., Aug. 12, 1885. Her writings include a volume of "Verses," "Bits of Talk," "Bits of Travel," the two works on the Indian question above mentioned, and several tales for children. She is also believed to have written the "Saxe Holm" stories, some pleasant ultra-sentimental tales which, by ingenious advertising on the part of the publishers, gained an extensive, though only temporary, popularity.

#### BILL TO RESTRICT IMMIGRATION.

CHICAGO.  
Give in your paper the main points in Senator Farwell's bill to restrict immigration.  
SUBSCRIBER.

*Answer.*—This bill, which was introduced in the United States Senate by Mr. Farwell, of Illinois, December 12, 1887, provides, first, that the immigration of convicts, paupers, idiots, and insane persons from any foreign country into the United States is prohibited, the act to take effect ninety days after its passage or approval. It further provides that every immigrant by steam or sailing vessel from any foreign port to any port of the United States must, before being permitted to land, exhibit a certificate from the United States Consul at the port of clearance of said vessel, showing that said immigrant is not a convict, pauper, idiot, or insane person, and that he is



possessed of sufficient means to support himself for the period of six months. If he is the head of a family that fact must be further testified, and also that he is able to support his family for the limited time mentioned. It is further provided that immigrants who can not show such certificates shall be returned to the country whence they came, and that the master of any vessel who shall accept any immigrant as a passenger, or attempt to aid him to land, without possession of the certificate required, shall be imprisoned and fined for each and every offense of the kind.

#### THE ONEIDA COMMUNITY.

Give an account of the Oneida Perfectionists, their history and doctrines and a history of Mr. Noyes.

**ANSWER.**—The Oneida Community is one of the few socialistic communities found in this country which is purely American in its origin. Its membership has always been almost entirely American. In its plan and working it has resembled the Mormon church on a small scale. The founder of the community, John Humphrey Noyes, was born at Brattleboro, Vt., in 1811, of respectable parentage. He graduated from Dartmouth College, began to study law, but turned to theology; studied first at Andover, and later at Yale Theological School. While at the latter institution he came under the influence of a zealous revival preacher, whose ideas took possession of his mind and then developed into a scheme of religion which he called "Perfectionism." This was in 1834. He soon after returned to Putney, Vt., where his parents then lived, and began to preach and print his new doctrines. In 1838 he married Miss Harriet S. Holton, the granddaughter of a member of Congress, and a convert to his doctrines, and began slowly gathering about him a small company of believers, and from the necessity of holding them together, to keep them steadfast in the new faith, he prepared the scheme of a communal society. Like the crafty apostle of Mormonism, Noyes did not announce his peculiar doctrines concerning the relations of the sexes until after he had thoroughly imbued his followers with his religious views—in fact until he had them, as he judged, thoroughly under the control of his will. These views were announced in 1845, and the following year the society at Putney began cautiously their experiment in communal life. Their faith and practice, however, of which they made no secret, so aroused the wrath of their respectable neighbors that they were mobbed and driven out of the place, and early in 1848 they joined some others, who had adopted their faith and practice, at Oneida, N. Y. Here they began community life. They were very poor for some time, for most of them were farmers and mechanics whose savings were small. But the numbers of the community increased, and all were diligent and persevering, and in time their circumstances improved. They began by raising small fruits and farm crops; to this they added a saw-mill, which sawed lumber for the neighboring farmers. They soon after began to make traps for sale, and finding a good market for these, which were uniformly well made, they gradually built up a factory whose goods became known all over the

country. In similar manner they built up their fruit canning business. By 1857 all the believers in "perfectionism" had concentrated at Oneida, and Wallingford, a place near by, and the two societies then took an inventory of their property and found themselves worth over \$67,000. Since then they have generally prospered in a material way, their fruits and manufactured goods being always in good demand in all outside markets. Their religious belief is somewhat peculiar. They call themselves "Perfectionists," believing that an absolutely sinless state is possible to men, and claiming to strive after it, and frequently to attain it. They believe that they are specially guided by God and good spirits, and that they can cure the sick by prayer. They believe that community of goods was commanded by Jesus, and they further carry the community system to persons, according to Mr Noyes' teachings, and justify by the specious claim of "unselfishness" their extraordinary system of "complex marriage." They surrounded their curious system of polygamy and polyandry with certain restraints, but Mr. Noyes affirmed that "no intrinsic difference exists between property in persons and property in things, and that the same spirit which abolished exclusiveness with regard to money would abolish, if circumstances allowed full scope to it, exclusiveness in regard to women and children." According to their plan, all marriages were decided upon not by the persons interested, but by other members of the society, these unions to exist for a limited time only, after which the two were not only at liberty to separate and form other alliances, but were compelled to do so. Mr. Noyes admitted that in practice he found a serious difficulty in carrying out his plan of "scientific propagation of the race," because of the strong tendency, especially among the younger members of the community, to what he called "selfish love"—that is, the attachment of two persons to one another, and a desire to be true to each other. It is a curious proof of the perversion of the human reason, that these people actually regarded as wicked that sentiment which all civilized nations have found to be the basis of all true morality, and it is an extraordinary evidence of the capacity of the human mind for accepting atrocious ideas under the name of religious beliefs that many men, brought up in entirely moral surroundings, would have been willing to bring their wives and daughters into this community. As to the other religious ideas of the Oneida Communists, they have no preaching, do not use baptism or the Lord's Supper, do not observe Sunday, do not pray aloud, and avoid all set forms. They read the Bible and quote it much in conversation. According to the plans of the founders of the community, children were left to the care of their mothers only until they were weaned. They were then put into a general nursery under the care of special nurses who were both men and women. Any desire on the part of parents to retain the exclusive control of their offspring was reprehended by Mr. Noyes as "unregenerate and selfish." As might have been supposed, the vigor and unity of a society of this kind were based on the strong will of its leader.

On the death of Mr. Noyes there was an attempt to keep the machinery of the community in movement as during his lifetime, but it failed. Soon after there was a very large secession on the part of the younger members. About this time, also, there was an attempt on the part of persons in adjoining towns—"people of the world," that is—to have the community suppressed under the State laws against bigamy. This was not carried out, however, and the Oneida Community still exists, but it exists mainly as a commercial partnership for the manufacture of its popular goods. The religious bond which held the people together during the lifetime of Mr. Noyes is, in effect, broken.

#### THE LADY OF SHALOTT.

DUNCAN, IOWA.

Please explain the poem of "The Lady of Shalott," and give the story on which it is founded.

L. S. S.

*Answer.*—Tennyson took the touching legend of this ballad from Sir T. Mallory's "History of Prince Arthur." From this legend the poet later developed the story of "Elaine, the Fair Maid of Astolat." The legend was that of a beautiful lady, who is under a command or spell to weave tapestry continually. She has about her many luxuries and servants to bring her what she needs, but she must never look out of the window upon the world, or dire consequences will follow—

"There she weaves by night and day,  
A magic web with colors gay;  
She has heard a whisper say  
A curse is on her if she stay  
To look down on Camelot.  
She knows not what the curse may be,  
And so she weaveth steadily,  
And little other care hath she,  
The Lady of Shalott."

Before her weaving frame is placed a mirror, in which "shadows of the world appear." In it she sees reflected through her window the river, "winding down to Camelot"—the royal city, where King Arthur lived—the distant spires of the town, the market girls bearing their burdens, the children dancing along by the roadside, sometimes a cowed priest, or a gayly clad page, or bands of knights, riding two and two along the highway. These sights she weaves into her tapestry; she is happy at her work, but sometimes she gets "half-sick of shadows." At last, Sir Lancelot, clad in burnished armor, and in the glory of his manly beauty, rides by, and "flashes into the crystal mirror" before the imprisoned lady. The fascination of this vision was irresistible, and the Lady of Shalott forgot the command laid upon her—

"She left the web, she left the loom,  
She made three paces through the room,  
She saw the water-lily bloom,  
She saw the helmet and the plume;  
She looked down on Camelot.  
Out flew the web and floated wide,  
The mirror cracked from side to side,  
"The curse is come upon me!" cried  
The Lady of Shalott."

Then she went down to the water-side, where she found a small boat. Writing her name on the

prow she embarked therein, and floated "down the river's dim expanse." As she floated she sang a mournful chant, like the song of a dying swan, and "singing in her song, she died." The boat was carried by the tide to the wharf at Camelot—

"Out upon the wharves they came,  
Knight and burgher, lord and dame,  
And round the prow they read her name,  
"The Lady of Shalott."  
Who is this and what is here?  
And in the lighted palace near  
Died the sound of royal cheer  
And they crossed themselves for fear,  
All the knights at Camelot,  
But Lancelot mused a little space,  
He said, "She hath a lovely face,  
God in His mercy send her grace,  
"The Lady of Shalott." "

It is understood that Tennyson's exquisite idealization of this legend was meant to imbue it with an allegorical meaning. It is the poet's picture of a sweet maiden, pure and passionless, whose inner life is spent in the seclusion of her own imagination, as far removed from the restless discontents and desires of the outer world as the Lady of Shalott was "in her upper room." In the mirror of her fancy the maiden sees many a reflection of the world without, and ceaselessly weaves these into the magic and gayly-tinted web of fantasy. But at length a gallant knight appears, who is her fate. She leaves the house of dreams, and throws herself into the boat that is to bear her down the stream of longing into the world of reality, where ardent passion burns, and eager souls are torn with jealousy and fear. Before this world is reached, the passionless, fancy-free maiden, as the poet imagined her, is dead. The conception is most poetical and touching.

#### THE TRADE WINDS AND THE ZONE OF CALMS.

FREMONT, ILL.

1. Explain the movements of the trade winds in both the Northern and Southern hemispheres.

ADRIAN.

CHESTER, OHIO.

2. Why is it that the southern limit of the zone of calms is not the equator?

S. F. SMITH.

*Answer.*—1. The above queries call for an explanation of the general circulation of the prevailing winds of the globe. We have noted that though the winds are regarded a type of all changeability and uncertainty, yet they move according to general and ascertainable laws. The primary causes of the wind are the globular form of the earth, its rotary motion, and the difference of temperature prevailing in its different parts. To these can be directly traced the great currents of air known as the trade winds, which blow continuously over a large part of the earth's surface; but the form of the continents, and relative situation of the lands and seas modify these currents, and give us the variable winds, the breezes, and the storm-currents, with which the temperate zones are especially familiar. First, then, we notice that the region near the equator having a high temperature, the atmosphere there becomes expanded by heat; the denser air of the colder countries, both north and south, presses against this dilated and warmer air, which therefore rises, and in this way two steady surface currents are



established, moving from the poles toward the equator, and two upper currents, which carry the air from the equator back to the poles. It might be supposed that these currents would have a directly north and south direction. But the rotation of the earth from west to east deflects these winds from their original direction. The speed of rotation of the earth's surface is almost nothing at the poles, but increases with every parallel to the equator, where it is over 1,000 miles an hour. The masses of air moving toward the tropics have an acquired speed less than that of the regions toward which they go, and thus at every step they fall a little behind the earth's. These retardations gradually deflect the polar currents, changing them into a northeast wind in the Northern hemisphere, and a southeast wind in the Southern hemisphere. These two currents are those which are known in the tropics as trade winds. The same cause makes the upper currents, setting from the equator to the poles, swerve, but in the opposite direction. These masses of air have always a velocity of rotation a little greater than that of the latitude over which they pass, and when they descend to the surface of the earth they become the return trade winds of the temperate zones, a southwest wind in the Northern hemisphere, and a northwest wind in the Southern hemisphere. Where the current from the poles and those setting backward from the equator meet, we have, in the region of the equator, a belt, known as the Zone of Calms. Were the entire surface of the globe an ocean the general course of the winds would probably show an unvarying regularity, but as it is, the lands check the march of these regular winds and break them, as it were, into pieces. Thus the trade wind of the Pacific Ocean is arrested by Australia, that of the Indian Ocean by Africa, that of the Atlantic by America. The trade wind region occupies from 20 to 22 degrees of latitude on each side of the equator, forming two belts, the northeast and southeast winds. Here there is a constant wind, blowing from fifteen to eighteen miles per hour, during the entire year. Wherever these winds blow the sky is cloudless and serene, the temperature even and moderate, and the atmosphere without tempests. On the open sea these winds blow always in the same direction, but in the vicinity of the continents their course and character are modified by the land surface. The trade wind of the Pacific Ocean begins to be felt a few miles from the western coast of America, and blows almost without interruption to the coast of Australia. Its limits are fixed between 20 and 25 degrees north latitude, but in summer it is felt a few degrees farther north. It was this constant and gentle wind that carried Magellan, whose ship made the first voyage round the globe, across the vast ocean, and caused him to give it the name of Pacific. The southeast current is as regular south of the equator, but its limits are not so well known; it is found as far south as 20 degrees south latitude. The trade wind of the Atlantic is modified by the position of this ocean between two continents much nearer to each other than those bordering the Pacific. This position moves it farther to the

north. Its northern limit is between 28 and 30 degrees north latitude, and its southern limit is about 8 degrees north latitude. 2. The zone of equatorial calms, which separates the two great bodies of the northeast and southeast trade winds, is not of uniform width. It is wider in the Atlantic Ocean than in the Pacific, probably because the former body of water is the narrower, and is still wider in the Atlantic during the summer because of the warm currents of air from the land. The fact that the southern limit of this zone in the Atlantic, as well as in the Pacific, is not on the equator, but somewhat north of it—so that a ship sailing southward encounters the southeast trade wind before crossing the equator—is ascribed to the predominance of land over water in the Northern hemisphere. The mean position of this zone is, in the Atlantic, between 3 and 9 degrees north latitude; in the Pacific, between 4 and 8 degrees north. In the continents it is usually between 2 degrees and 4 degrees north latitude. This is the region where the horizontal wind is changed into an upward current, which produces a temporary equilibrium, having the effect on the surface of a calm, whence the name. But this meeting of the cold and warm currents often produces terrific storms, sudden squalls of wind, and the fierce cyclonic tempests, known as "the doldrums" among sailors, which are the terror of all navigators. In the zone of calms there is not the serene sky of the trade winds, but almost daily there is a gathering of clouds, which soon after the middle of the day burst in torrents of rain, accompanied by terrific thunder and lightning. These rains are caused by the upward current, which carries the warm, moisture-laden air upward into the cold regions of the atmosphere, where the vapor is condensed in the form of rain.

#### THE QUAKERS.

BRONSON, Kan.  
J. M. C.

Give a history of the Quakers and their doctrines and discipline.

*Answer.*—The religious body known as the Quakers, or Friends, was founded in 1646 by George Fox, the son of a Leicestershire weaver. Fox adopted the name of Friends for his society. The name Quakers was given to them by Gervase Bennett, a magistrate, whom Fox exhorted to "quake at the word of God." Fox began to preach his peculiar doctrines when but twenty-two years old. He taught that preaching, to be effectual, must come from the direct operation of the Holy Spirit upon the soul, and that therefore no separate or trained order of ministers was needed. He proscribed all ceremonies, even baptism and the Lord's Supper, all forms of devotion except the silent converse of the soul with God, allowed no adornment of places of worship, no music in church services or the observance of any fasts and feasts. He denounced war even when waged in self-defense, asserted the equality of all men, and would not uncover his head when brought before the highest dignitaries. He declared all legal oaths to be a violation of the Scripture, and insisted that all precepts of the gospel should be taken literally. For four years Fox was the only preacher of his doctrines, but in

the seventh year of his preaching he had sixty colleagues. The peculiarities of the new sect brought much persecution upon them, and this had the usual effect of attracting attention to them, and augmenting their numbers. At one time over 4,000 Quakers were confined in the prisons of England, and they were there treated with such cruelty that many died in confinement, and many more in consequence of their sufferings in prison. Heavy fines were inflicted on them, their meeting-houses were torn down, their open-air gatherings were dispersed by soldiers, they were openly insulted and beaten, but still their numbers increased. In 1686, through the influence of Penn, King Charles was induced to free, by royal proclamation, all persons imprisoned on account of their religious opinions. The toleration act passed in 1689 allowed them to hold their religious meetings unmolested. Many of the sect had before this left the country to escape persecution. Those who went to the Massachusetts colony were for a time treated more harshly than they had been in England. In Virginia laws were also passed against them, and in Maryland they were arrested, not as heretics, but as "vagabonds." In Rhode Island they were not interfered with in any way, and William Penn founded a colony of them on the Delaware River in 1682 which was granted all civil and political rights by the British government. There is no doubt that the early Quakers were extremists, but their extravagances were often due to disorder of mind, caused by the excitement of the times and the cruelty of punishment decreed against them. Their refusal to swear in courts of law, to pay the tithes and church rates, and to acknowledge their members amenable to call for military duty, brought them directly in conflict with the civil authority and intensified the feeling against them. Since the early part of the eighteenth century they have been allowed some special privileges in both England and America. They have been permitted to affirm instead of to swear in court, have been exempted from military service, except in hospitals, but in Great Britain for many years tithes continued to be collected from them by distraint. The doctrines of the Friends have not been greatly changed since the time of their founding, though they have been, like other bodies, somewhat weakened by division or secession. Their cardinal and principal doctrine that the "inward light" which is given to all men should be the guide of the actions of all, is one peculiarly likely to lead to great differences. The earlier and stricter Friends no doubt placed the inward teaching of the spirit above that of the Scriptures. In the early part of this century, this doctrine was also pushed to excess by Elias Hicks, a very popular and able preacher. He embraced Unitarian views, and the result of the controversy which arose was a great schism, about one-half of the Quakers in America seceding and taking the name of Hicksite Friends, while the remainder are known as Orthodox Friends. The reaction against the Hicksites being carried too far in the opinions of some who remained orthodox, a second small secession followed John Wilber. These hold more strictly

than most of the Orthodox Friends to the original tenets of the body, but they abhor the Arian views of the Hicksites. The Friends in England are generally orthodox, but they have approximated more perceptibly to the customs of other Christian bodies—for instance, in the use of music in their meetings, an audible ministry, and similar innovations, than the Quakers of America. The practice of silent worship is still the rule in this country. They enter and sit in silence until some member is impelled by the spirit to speak. No stated reading, even of the Scriptures, is usually allowed. They regard the Sabbath as a Jewish institution done away with by Christianity, but they regard it as well to give one day of the seven to worship, rest, and meditation, and are therefore better observers of Sunday than most other Christian bodies. The discipline of the Society of Friends is much like that of the Presbyterians. They have three gradations of meetings: monthly meetings, composed of the congregations from a circuit, who choose elders to watch over the ministry, and overseers to attend to the education of children of the poor and look after charities, etc. (At the monthly meetings marriages are sanctioned previous to their ratification in public worship, for the Friends declare marriage to be "not a mere civil compact, but a divine ordinance, and it is the prerogative of God alone to join persons in that solemn covenant, and the interference of a priest is an assumption altogether unwarranted by Holy Scripture or the example of the primitive church.") Quarterly meetings are held to receive general reports from the monthly meetings, and to hear appeals from their decisions, and the yearly meeting has the general superintendence of the society in the whole of any country. The early Friends objected even to as much formal organization as these regular gatherings imply, but it was found to be necessary to hold the unity of the body. At the end of 1884 there were 18,000 members of the Society of Friends in Great Britain and Ireland. There are also small societies in France, Germany and other European countries. The society is the strongest in America, where it is estimated to include about 60,000 members.

#### THE FUGITIVE SLAVE LAW.

OTTAWA, ILL.

1. Give the important features of the fugitive slave law of 1850. What party voted for it and what were the penalties attached to those who harbored or aided the slaves? 2. Also give Chief Justice Taney's words in rendering the decision in the Dred Scott case.

G. R.

*Answer.*—1. The fugitive slave law of 1850 was passed because the provisions of the act of 1793 were not sufficiently stringent. It was a sectional, not a party issue, for at that time there were pro-slavery men in both the Democratic and the Whig parties. The Southern members voted solidly for it, and the majority of the Northern members against it. It consisted of ten sections. The first four of these extended to United States commissioners the power to act in slave cases which had previously been confined to United States judges, and provided for the appointment of the former officers in sufficient numbers to accomplish the added work. The fifth section required United States marshals and their deputies to execute writs under the act—a



fine of \$1,000 being the penalty of their refusal—made the marshal or other officer liable on his bond for the full value of any slave escaping from his custody, empowered the officers to call upon bystanders to help execute writs, and required all good citizens to aid when necessary. Under the sixth section United States courts and commissioners were commanded to give any claimant declaring under oath his right to any slave, a certificate and authority to take possession of the slave, the word of the fugitive was in no case to be admitted as evidence, and the certificate of the court was to be conclusive proof of the claimant's title, thus cutting off from the fugitive any benefit of the writ of habeas corpus. By the seventh section imprisonment for six months, a fine of \$1,000, and civil damages of \$1,000 to the claimant was fixed as the punishment for obstructing an arrest, attempting a rescue, or harboring a fugitive after notice; the eighth provided for special fees to the United States commissioners for granting certificates, and the ninth gave to claimants who had captured fugitives the right to demand the protection of the United States marshals in preventing attempts at rescue. Finally, the tenth section provided that any claimant might obtain from any court of record in his own State or Territory a record giving a general description of the fugitive, and this was to be conclusive evidence, on proof of the identity of the fugitive, for issuing a certificate in any State or Territory to which he had fled. 2. In giving the Dred Scott decision, Justice Taney took occasion to give an elaborate opinion on the status of the negro, especially in the United States. The Declaration of Independence, he said, did not recognize the negroes as a part of the people. He then went on to say—and it is only fair to recognize the harsh statement as the utterance of historical fact and not as merely the expression of individual or party opinion: "It is difficult at this day to realize the state of public opinion in relation to that unfortunate race which prevailed in the civilized and enlightened portions of the world at the time of the Declaration of Independence and when the Constitution of the United States was framed and adopted. But the public history of every European nation displays it in a manner too plain to be mistaken. They had for more than a century before been regarded as beings of an inferior order and altogether unfit to associate with the white race, either in social or political relations, and so far inferior that they had no rights which the white man was bound to respect; and that the negro might justly and lawfully be reduced to slavery for his benefit. He was bought and sold and traded as an ordinary article of merchandise whenever a profit could be made by it."

#### THE SHERIDAN FAMILY.

CHICAGO.

In describing the audience at the trial of Warren Hastings, Macaulay says: "There too was she, the beautiful mother of a beautiful race, the Saint Cecilia, whose delicate features, lighted up by love and music, art has rescued from the common decay." Who is here referred to, and why is she thus characterized?

CONSTANT READER.

Answer.—The lady alluded to in the extract above was the first wife of Richard Brinsley

Sheridan. She was Maria Linley, the daughter of a well-known musician residing at Bath, and had several sisters, all such sweet singers that Dr. Birney called their home "a nest of nightingales." Maria Linley was the loveliest of the flock, and was known as the "Maid of Bath," and though but seventeen at the time of her marriage, was already the queen of the lyric stage, exquisitely beautiful, and not less noted for the modesty, delicacy, and grace of her manner and character. The circumstances of her marriage to Sheridan were quite romantic. She, a simple, innocent maiden, had been inveigled into a correspondence with a man much her senior and already married. This man contrived to see her occasionally, and by violent protestations of affection, and threats to commit suicide if she would not continue the friendship, managed to gain a hold over the child that might have ended most unhappily had not Sheridan appeared on the scene. He was then a youth of twenty years, was strikingly handsome and brilliant, and immediately fell in love with Miss Linley. In some way he came to learn of the other affair, and cleverly concealing his own passion, he managed to become the confidant of both parties. He was thus able to foil the older man's schemes, and to show the young girl the true character of her pretended lover. This man was enraged at his dismissal, and threatened to carry off the girl by force, and to prevent this, Sheridan took her secretly to Calais and placed her in the care of an old friend. The young couple were privately married there, but parted immediately, and kept their union a profound secret for a year. Finally, in the spring of 1773, they were again married publicly, with the approval of families and friends. Mrs. Sheridan was greatly admired in the social world of London for her musical talents as well as her rare beauty. Sir Joshua Reynolds painted her as St. Cecilia, and the portrait was one of the most famous produced by this distinguished artist. This lady had but one child, a son, Thomas Sheridan, who had three daughters, probably more famed for beauty and intellect than any sisters recorded in history. The oldest, Helen Selina, married in 1825 Lord Dufferin, and was mother of the present Earl of Dufferin, honorably distinguished in literature and politics. The second daughter, Caroline Elizabeth Sarah, married in 1827 the Hon. George Chapple Norton, brother and eventually heir of Lord Grantley. Her genius and misfortunes form a tale well known to many readers. The third and loveliest, Jane Georgiana, married in 1830 Lord Seymour, afterward Duke of Somerset. She was considered the most beautiful woman in England, and was "queen of beauty" at the celebrated Eglington tournament. Lady Dufferin is reported to have said of her family, "Georgy's the beauty and Carry's the wit, and I ought to be the good one; but, unfortunately, I have not the qualification." In this she did all less than justice, for they were all extremely beautiful; and she herself, though not, like her sisters, appearing in public as an authoress, was much admired for her charming letters and unpublished verses. The extraordinary physical gifts of the Sheridans have continued

down through yet more generations. Three granddaughters of the Duchess of Somerset, children of her daughter, form another group famous for beauty and talent, and others might be mentioned, less widely known, but fully justifying Macaulay's assertion that this St. Cecilia of the eighteenth century was "the beautiful mother of a beautiful race."

#### THE DEPENDENT PENSION BILL.

READING, Mich.  
Give the provisions of the dependent pension bill now before Congress. L. M. T.

*Answer.*—The following are the provisions of the bill as passed by the Senate. It has been carefully framed to meet the objections to the bill of 1887:

1. In considering the pension claims of dependent parents, the fact and cause of death, and the fact that the soldier left no widow or minor child or children having been shown as required by law, it shall be necessary only to show by competent and sufficient evidence that such parent or parents are without other means of support than their own manual labor or the contributions of others not legally bound for their support; Provided, that all pensions allowed under this section shall commence from the date of the passage of this act, or from the date of subsequent dependence, and shall continue no longer than the existence of such dependence.

2. All persons who served three months or more in the military or naval service of the United States during the war of the rebellion, and who have been honorably discharged therefrom, and who are now, or may hereafter be, suffering from mental or physical disability, not the result of their own vicious habits, which totally incapacitates them for the performance of manual labor, and who are without other adequate means of self-support, shall, upon making due proof of the fact, according to such rules and regulations as the Secretary of the Interior may provide, be placed upon the list of invalid pensioners of the United States, and be entitled to receive \$12 per month, and such pension shall commence from the date of the filing of the application in the pension office, after the passage of this act, upon proof that the disability then existed, and shall continue during the existence of the same: Provided, that persons who are now receiving pensions under the existing laws, or whose claims are pending in the Pension Office, may, by application to the Commissioner of Pensions, in such form as he may prescribe, receive the benefits of this act; and nothing herein contained shall be so construed as to prevent any pensioner thereunder from prosecuting his claim and receiving his pension under any other general or special act: Provided, however, that no person shall receive more than one pension for the same period; and provided, further, that rank in the service shall not be considered in applications filed hereunder.

3. If any invalid pensioner has died, or shall hereafter die, leaving a widow, minor child, or children under 18 years of age, or in case there be no widow, or minor child, or children, a dependent mother or father, such widow, minor child, or children, or mother, or father shall be placed upon

the pension roll at the date established by law for widows, minor children, or parents, without regard to the cause of death of such pensioner; provided, that said widow was married to the deceased pensioner prior to the passage of this act. All pensions granted to widows under this or any other general law shall take effect from the date of the death of the husband of such widows, respectively, but not dating back of the passage of this act. The increase of pensions for minor children shall be at the rate of \$5 a month instead of \$2 a month as now provided by law, and in case a minor child is insane, idiotic, or otherwise helpless the pension shall continue during the life of said child, or during the period of such disability.

#### THE GRAHAM FAMILY

ROCK FALLS, Ill.  
Give a history of the former powerful family of Graham, in Scotland, of which Dundee and Montrose were members. Has the family now any representatives among the nobility? Give a sketch of "the great Marquis."

#### DETAILS OF HISTORY STUDENT.

*Answer.*—The family of the Grahams, originally Graeme, was a notable one in the very earliest years of Scottish history. A Graeme was among the leaders of the Caledonians, when they forced their way through the wall of Severus, in 209 A. D. In the reign of King David I., who came to the throne in 1124, William de Graeme, Knight of Lothian, was one of the trusted royal adherents. But the first undoubted ancestor of "the great Marquis" was Sir David de Graeme, who, in the latter part of the twelfth century, obtained from King William the Lion a gift of land near the old castle of Montrose. One hundred years later his descendant, Sir Patrick de Graeme, was slain at the battle of Dunbar. It is said that, when dying, Sir Patrick called to his side his eldest son, John, and bade the young man swear on the sword that the dying hero had so nobly wielded, not to cease fighting for Scotland's freedom, if need should be, while a drop of blood flowed in his veins. The house of Montrose still have in their possession a sword which they claim to be the weapon of this heroic ancestor. Young Sir John, the Graeme of Dundaff, kept his vow right worthily. He was known as "the right-hand" of Sir William Wallace, was severely wounded at the fight of Blackenside, and was killed in the bloody defeat of Falkirk. His tomb is yet to be seen near the site of that battle. The old yew tree on the battle-field, under which it is said that the Graeme drew his last breath, while Wallace stood weeping by his side, stood until 1759, when it was cut down by royal order. Early in the fifteenth century Sir William Graham married for his second wife the daughter of King Robert III. Robert, the oldest son of this marriage, was the ancestor of the Grahams of Claverhouse. William, the third Lord Graham, who was made Earl of Montrose in 1594, fell, on Flodden Field, in 1513, and his grandson, Robert, was slain at the battle of Pinkie in 1547. The next in succession, John, held several important offices and became Viceroy of Scotland when James VI. ascended the throne of England. His eldest son, John, who succeeded to the earldom in 1616, married Lady Margaret Ruthven. They had five daughters and one son, James, the



"great Marquis," who was born in 1612. He had a very excellent education, which he improved by travel. He held a commission in the Scotch Guards, but in 1637, either because he was chagrined at not receiving promotion from the King's party or because he was carried away by the prevailing enthusiasm, he joined the Covenanters. He did good service for them for a time, but then became disaffected and joined the King's party. He commanded an army of Royalists in the war which broke out in 1644, and gained many brilliant victories, but, Sept. 13, 1645, he lost the advantage of these successes by a terrible defeat. He was obliged to flee the country, and tried, but in vain, to secure aid for the King's cause abroad. While Montrose was on the continent King Charles I. was executed. Montrose fainted away on receipt of the dreadful intelligence and gave way to most passionate regrets. He soon after undertook an invasion of Scotland in behalf of Charles II. He expected that the people would be ready to join him, but he was disappointed. He was defeated in his first battle, was soon after captured, tried, and condemned to death as a traitor to the covenant. He heard his doom read—to be hung, drawn, and quartered—without flinching. In his prison the day before his death he wrote on the window with a diamond pencil the following lines:

"Let them bestow on every airt\* a limb,  
Then open all my veins, that I may swim  
To Thee, my Maker, in that crimson lake;  
Then place my parboiled head upon a stake,  
Scatter my ashes, throw them in the air,  
Lord! since thou knowest where all these atoms  
ars.

I'm hopeful thou'lt recover once my dust,  
Confident thou'lt raise me with the just."

He was executed May 21, 1650, going to the block with heroic calmness. His head was placed on the Tolbooth, and his limbs were sent to various parts of Scotland. His estate was also confiscated and his children debarred from any part of their inheritance. Soon after the restoration, however, in 1660, Charles II. reversed the sentence of forfeiture, restored the Montrose lands to the family, and had the remains of the great Marquis gathered and buried in state in St. Giles' Cathedral, Edinburgh. Of the two sons of the Marquis, the elder died before his father's execution. The second, James, had the title of Marquis restored to him with his lands. There has been a regular succession in the family from that time to the present. James, the fourth Marquis, who was very active in bringing about the union of Scotland and England, received the title of Duke in 1707. The present head of the family, the fifth Duke, came into the title in 1874.

\*Direction, or point of the compass: 1, e.—Be quartered.

#### DERIVATION OF "CRACKER."

WELDON, III.

Why is the term "cracker" given to the people living in the hill country of Georgia? R. S.

Answer.—This term has given rise to much discussion. It has been in use in Middle Georgia some fifty years, and is said, with much proba-

bility, to have been first applied to the country people who came to the river towns with loads of cotton or other produce in large wagons drawn by several pairs of oxen, or oxen and mules, which they drove with long whips. The cracking of these whips sounded through the woods like rifle shots, whence the epithet "cracker," applied to the drivers. The term is used now in Georgia and Florida, but only in application to the very lowest class of white people, those on whom the increase of civilization seems to make little impression.

#### A CHILD'S CONCEPTION OF BEAUTY.

MILWAUKEE, Wis.

Please inform me where I can find the original poetry, wherein it is asserted or claimed, that the child's first conception of beauty is from its mother's breast! So far no paper here has been able to give us the authority. QUERIST.

Answer.—Page 37 of "Origin of Society," "Progress of the Mind," Canto 3, poem 3, by Erasmus Darwin, author of "The Botanic Garden," etc., London, 1825, our querist will find the following verses:

"As the pure language of the sight commands  
The clear ideas furnished by the hands;  
Beauty's fine forms attract our wondering eyes,  
And soft alarms the pausing heart surprise.  
Warm from its cell the tender infant born  
Feels the cold chill of Life's aerial morn;  
Seeks with spread hands the bosom's velvet orbs  
With closing lips the milky fount absorbs;  
And, as compress'd the dulcet streams distill,  
Drinks warmth and fragrance from the living rill;  
Eyes with mute rapture every waving line  
Prints with adoring kiss the Paphian shrine  
And earns ere long, the perfect form confess'd,  
Ideal beauty from its mother's breast."

#### THE COMPROMISE OF 1850.

MATTOON, III.

1. How did the bill for the compromise of '50 originate, and who was the true author? 2. Is there any foundation for the assertion that Stephen A. Douglas was the author? J. O. CAIRNS.

Answer.—1. The question of the admission of California in 1850 had aroused so much sectional feeling in Congress that the existence of the Union seemed to be threatened. Henry Clay, therefore, offered a plan of compromise in the form of a series of resolutions. These provided for the admission of California as a State without slavery (in accordance with the expressed wish of her citizens), for the formation of territorial governments in the Mexican cession without raising the question of slavery therein, and fixed the boundary of Texas. Also, it was declared to be inexpedient to abolish slavery in the District of Columbia, without the consent of the citizens; that more effectual laws should be made for the restitution of fugitive slaves; and that Congress had power to prohibit or obstruct the slave-trade between the several States. Mr. Clay ably advocated these resolutions, Mr. Webster approved them, and they were referred to a committee of thirteen—six Southern and six Northern members, they choosing the thirteenth. This choice fell upon Mr. Clay, who was made Chairman. He reported May 8, 1850, a plan of compromise which was essentially that embodied in the above resolutions. This was called the "omnibus bill," because it included all the points in dispute. Long and earnest debates followed and the bill was

finally lost as a whole, but subsequently the details of compromise were taken up and passed as separate bills. 2. There is no foundation for the assertion that Mr. Douglas originated these measures, but he supported them warmly.

#### TREATIES WITH CHINA.

ST. LOUIS, MO.

What treaties have been made by the United States with China, and what were their provisions? Give a history of the anti-Chinese agitation and the exclusion bill.

READER.

*Answer.*—Our first treaty with China was made in 1844, during the administration of President Polk. It was drawn up by Caleb Cushing under instructions of Mr. Webster, as Secretary of State. This gave us certain commercial rights in the Chinese ports then open to commerce, and a certain degree of protection to our representatives. This treaty provided for its own amendment at the expiration of twelve years. It devolved on the administration of Mr. Buchanan to institute necessary negotiations for this purpose. There were serious claims and charges against the Chinese government for violation of the treaty by its citizens, and the settlement of these called for considerable diplomatic skill. Hon. William B. Reed was the minister sent out. Great Britain and France were both at that time waging war against China, and they desired the United States to co-operate with them. This did not seem at all advisable, however, and our minister was directed to preserve a strict neutrality between the belligerents, but to co-operate cordially in any peaceful measures undertaken by Great Britain and France to secure just concessions to commerce. This plan was well carried out, and June 18, 1858, the treaty of Tien-tsin was signed. This gave to the United States the same freedom in commercial relations that had been granted to Great Britain and France, and provided for the full payment of all claims on the part of our citizens against the government of China. Additional articles to this treaty were signed July 4, 1868. These were drawn up by Anson Burlingame, who had been our Minister to China, and who had so won the confidence of the Chinese government that they had chosen him ambassador from China to the United States and the governments of Europe. These provided for the protection of United States citizens in China, and that these citizens should be guaranteed full religious liberty, all privileges of education, and full right of traveling about in China. It provided for none of these privileges reciprocally for citizens of China in the United States, except exemption from persecution on account of religion. It recognized the right, however, of voluntary emigration from one country to the other, and made the transportation of coolies, or similar "forced emigration" of citizens, a penal offense. Finally the United States disclaimed all purpose or desire to interfere in the domestic administration of China by introducing railroads, etc., until such time as that government should desire them. At the time of this treaty there was no "Chinese question," as it is called, and Chinese emigrants were freely welcomed in the United States. But no sooner did the Chinese laborer begin to emigrate hither in large numbers, and to come in competition with the white laborers in the

Pacific States, than there commenced an agitation in favor of excluding them. The rate of wages depends upon the supply of and demand for labor, and the influx of a troupe of impecunious foreigners, eager to obtain work at any wages, was anything but welcome to the California workingmen, accustomed as they were to high wages and free expenditures. Their complaints found little sympathy at the East, and for a long time the anti-Chinese movement was rather disapproved of. However, after a time the growth of the conviction that Chinese cheap labor was an evil requiring National legislation to mitigate or remove, became rapid. In February, 1879, Congress passed an act limiting the immigration of Chinamen to fifteen in each vessel, but President Hayes vetoed the bill, as inconsistent with our treaty with China. By this time it had become generally admitted that the exclusion of the Chinese was desirable, and almost the only argument brought against such exclusion was the fact that it was a violation of the existing treaty. A commission was therefore sent out to China expressly to draw up a new treaty that would be satisfactory to the strong anti-Chinese party in this country. Two treaties were concluded by this commission. One of these related to the regulation of commerce, the nations mutually agreeing to grant to each other the privileges accorded to the "most favored nation," except in the matter of opium, which Chinese are not allowed to import into America nor Americans into China. It also regulated the trial of legal controversies between Chinese and Americans, giving the defendant in every case the right to be tried in a court of his own nationality. The other treaty, relating to emigration, was negotiated at Peking, Nov. 17, 1880, by Commissioners James B. Angell of Michigan, John F. Swift of California, and W. H. Trescott of South Carolina, on the part of the United States; and Pao Chun and Li Hung Tsao, members of his imperial majesty's privy council, on the part of the Ta Tsing empire. The treaty gave the United States discretionary power to regulate, limit, or suspend, but not absolutely prohibit, the coming to and residence in America of Chinese laborers, but stipulated that the proposed legislation should affect laborers only. Chinese merchants, artists, etc., were assured the right to come and go as before, and all Chinamen were pledged the full protection of the laws. These treaties were ratified by the United States Senate in May, 1881. Under their protection the bill suspending Chinese immigration for a period of years was passed in 1882. The first bill passed was vetoed by President Arthur as not coming within the provisions of the treaty; the second, essentially the same but more carefully worded, was approved. This law was further amended in 1884. A complete summary of the law, as it now exists, may be found by the reader in *Our Curiosity Shop* book for 1884. The anti-Chinese riots on the Pacific coast during late years have shown that the desire to give to all the Chinamen in this country the full protection of the laws was generally accepted there "in a Pickwickian sense," and it has therefore been thought advisable to accept the antagonism of the races as an inevitable fact, and



to urge the co-operation of the Chinese government in preventing the influx into this country of a class so unwelcome to the mass of workmen here. A treaty to this effect, therefore, has just been concluded, through the offices of Mr. Denby, our Minister to China. We give a full summary of this treaty, as it is regarded of much present and future importance. The preamble sets forth that the government of China, "in view of the antagonisms and much deprecated and serious disorders to which the presence of Chinese laborers has given rise in certain parts of the United States," desires to prohibit such immigration, and that the two governments desire to co-operate for that purpose. The successive clauses are in effect, as follows: 1. The coming of Chinese laborers to the United States is prohibited for twenty years from the date of the exchange of the ratifications. 2. This prohibition is not to apply to a laborer having a lawful wife, child, or parent in the United States, or property of the value of \$1,000 therein, or debts due to that amount. In either of these cases the local collector of customs, on being satisfied of the fact, will supply him with a certificate permitting his return within a year, or, for a good cause shown, within two years. 3. The treaty does not affect officials, teachers, merchants, travelers, students, who must, however, be supplied with passports by their own authorities, authenticated by the American consuls, identifying them as belonging to one or other of these classes. Nor does it apply to Chinese laborers in transit through the United States. 4. Such laborers as are at present in the United States, and such Chinese subjects as may hereafter visit that country, are entitled to the most favored nation treatment, save only the right to be naturalized. 5. The Chinese government having claimed an indemnity for those of their subjects in the United States, who "have been the victims of injury in their persons and property at the hands of wicked and lawless men," the government of the United States, though denying their legal obligation, have "humanely considered these injuries," and have borne in mind the ancient friendship between the two countries. Accordingly, with a view to "alleviating the exceptional and deplorable sufferings and losses to which the aforesaid Chinese have been subjected," the United States Government agree to pay before March 1, 1889, \$276,619.15 to the Chinese Minister as a full indemnity. 6. The treaty is to remain in force twenty years, and if six months before the expiration of this period neither side gives notice of its termination, it shall remain in full force for another twenty years.

## DENMARK AND HER RULERS.

HARDY, Neb.  
Give a history of the kingdom of Denmark. When was it first settled and whence was its name derived? Give a table of its rulers.

J. M. HOLMES.

*Answer.*—The original form of the word Denmark is Danemerk, the march or border of the Danir, but whence the name Danir, or Danes, is derived is undecided, and has given rise to endless antiquarian discussion. It is by some derived from Dacini, the Dacians, and regarded as evidence that this tribe from the Danube took part in the early settlement of Denmark. Others sup-

posed it taken from a King Dan who ruled the people in the early times. The most ancient inhabitants of the peninsula were probably the Cimbr, who were driven out by the Goths in the century before the Christian era. The legends mention Skjold, supposed to be a son of Odin, as the first King of Denmark, and this ruler was no doubt one of the conquering tribe. From the earliest historical accounts we have, the peninsula seems to have been divided among a great number of petty chieftains, who were called smaa-kongar, or "little kings." The old chronicler, Saxo Grammaticus, says that these chiefs were first united under one rule by King Dan the Famous. This chronicler records a great number of mythical stories concerning the early history of Denmark, but it is quite impossible to separate truth from fiction in his record. During the eighth century occurred the great battle of Bravalla, which was fought between Sigurd, King of Sweden, and Harold, King of Denmark, and in which the Swedish leader was victorious. During the eighth and ninth centuries, the Danes, with the other Northmen, began to acquire renown by their maritime expeditions, in which they invaded England and Scotland, and conquered Normandy. In the ninth century Christianity was introduced into the country by the missionary Ansgarius, but for many years the country was torn asunder by dissensions between adherents of the old and the new faith. Gorm the Old, the first authentic King of Denmark, after having united the several small states under one rule, died in 936, after a reign of fifty-three years. Gorm's descendants conquered Norway, and also ruled England for a time. The table of kings, as accurately as it can now be made out, we give below:

NAME OF KING.	Length of reign.	Line of Descent.
Gorm (the Old)....	883-936	Son of Gorm. Son of Harold. Son of Sweyn, who was King of Denmark, Normandy, and England
Harold.....	941-991	
Sweyn I.....	991-1014	
Canute the Great.	1014-1035	
Hardicanute.....	1035-1042	Son of Canute, made King of Denmark on his father's death and succeeded to England also in 1040, on his brother Harold's death.
Magnus I.....	1042-1047	
Sweyn II.....	1047-1073	Nephew of Canute. Son of Sweyn, but did not succeed without a struggle of several years.
Harold, the Simple	1076-1080	
Canute (the Saint)	1080-1086	Second son of Sweyn. Third son of Sweyn. Fourth son of Sweyn.
Olaf (the Hungry).	1086-1095	
Erik (the Good)...	1095-1103	
Interregnum.....	1103-1105	
Nicholas.....	1105-1135	Fifth son of Sweyn.

With Nicholas, the direct line from Sweyn I. became extinct, and then followed a period of con-

fusion and struggle over the succession. Eric, surnamed the Harefoot, nominally ruled from 1134-1137, and another Eric, called the Lamb, 1137-1147, but the harassed country did not have peace until, in 1157, Waldemar I, a descendant of Canute the Great through the female line, was elected to the throne.

NAME OF KING.	Length of reign.	Line of Descent.
Waldemar I. (the Great).....	1157-1182	.....
Canute VI.....	1182-1201	Son of Waldemar I.
Waldemar II.....	1202-1241	Son of Waldemar I.
Eric IV.....	1241-1250	Son of Waldemar II., killed by his brother Abel.
Abel.....	1250-1252	Son of Waldemar II.
Christopher I.....	1252-1259	Son of Waldemar II.
Eric V.....	1259-1266	Son of Abel.
Eric VI.....	1266-1319	Son of Eric V.
Christopher II.....	1320-1334	Son of Eric VI.
Interregnum.....	1334-1340	.....
Waldemar III.....	1340-1375	Son of Christopher II.
Olaf.....	1375-1387	Grandson of Waldemar III.

After the death of Olaf, his mother, Margaret, the daughter of Waldemar, then Queen of Norway, succeeded him. She greatly desired to unite the three Scandinavian kingdoms under one ruler, and therefore immediately led an invasion of Sweden. Being successful, the compact of union was signed at Calmar, July 20, 1397. These are the rulers under the union of Calmar:

NAME OF KING.	Length of Reign.	Line of Descent.
Queen Margaret...	1387-1412	Reigned jointly with Eric after Union.
Eric of Pomerania	1397-1439	Grand nephew of Margaret. De-throned by popular revolution in 1439.
Christopher III....	1440-1448	Son of Eric's sister. Elected.
Christian I.....	1457-1464	Son of King Eric.
John V.....	1483-1501	Son of Christian I.
Christian II, the Tyrant.....	1499-1523	Son of John. De-throned.

Christian II was dethroned for his cruelty and tyranny, and imprisoned until his death, in 1529. Sweden now withdrew from the Union, and placed one of her powerful nobles, Gustavus Vasa, upon the throne. The Danes elected their imprisoned King to be their ruler. This family held the throne of Denmark until 1863, and ruled Norway also until 1814.

NAME OF KING.	Length of reign.	Line of Descent.
Frederick I.....	1533-1538	Son of Christian I.
Christian III.....	1539-1559	Son of Frederick.
Frederick II.....	1559-1588	Son of Christian III.
Christian IV.....	1588-1648	Son of Frederick II.
Frederick III.....	1648-1679	Son of Christian IV.
Christian V.....	1679-1699	Son of Frederick III.
Frederick IV.....	1699-1730	Son of Christian V.
Christian VI.....	1730-1746	Son of Frederick IV.
Frederick V.....	1746-1766	Son of Christian VI.
Christian VII.....	1766-1784	Son of Frederick V.
Frederick VI.....	1784-1839	Son of Christian VII.

Christian VIII....	1839-1848	Son of Frederick V.
Frederick VII.....	1848-1863	Son of Christian VIII.

On the death of King Frederick in 1863, without heirs, the present monarch ascended the throne as

Christian IX. He was the son of William, the Duke of Schleswig-Holstein-Sonderburg-Glücksburg, and succeeded according to the agreement of the powers at the treaty of London in 1852 concerning the Danish succession. He is descended from Christian III, and his wife, who was Princess Louise of Hesse-Cassel, is a descendant of Frederick V.

#### DR. WENDELL HOLMES' "BOYS."

NORBORNE, Wis.  
Tell us who were the characters referred to by Dr. Oliver Wendell Holmes in his poem "The Boys."  
F. L. M.

*Answer.*—Dr. Holmes, our readers must all know, is famous as a writer of college anniversary poems. One of the finest of these is his poem entitled "The Boys," which begins thus:

"Has any old fellow got mixed with the boys?  
If there has, turn him out without making a noise.  
Hang the Almanac's cheat and the Catalogue's spite;  
Old Time is a liar! We're twenty to-night!"

In this poem he thus refers to some of his classmates, who had earned distinction in various walks of life:

"We've a trick, we young fellows, you may have been told,

Of talking (in public) as if we were old.

That boy we call 'Doctor,' this one we call 'Judge':  
It's a neat little fiction—of course it's all fudge.

That fellow's the Speaker—the one on the right;  
Mr. Mayor, my young one, how are you to-night?  
That's our member of Congress, we say when we chaff,

That's the Reverend—what's his name?—don't make me laugh!

That boy with a grave, mathematical look,  
Made believe he had written a wonderful book;  
And the Royal Society thought it was true,  
And chose him right in,—a good joke it was, too.

There's a boy, we pretend, with a three-decker brain,

That could harness a team with a logical chain,  
When he spoke for our manhood in syllabled fire,  
We called him the 'Justice,' but now he's the 'Squire.'

And there's a nice youngster of excellent pith,  
Fate tried to conceal him by calling him Smith.  
But he shouted a song for the brave and the free;  
Go read on his banner, 'My country, of thee!'

You hear that boy laughing, you think it's all fun,

But the angels laugh, too, at the good he has done.  
The children laugh loud as they troop at his call,  
And the poor man that knows him laughs loudest of all!"

These verses are rather puzzling, it must be admitted, to those who do not know to whom the clever allusions refer. They were all members of Holmes's class—the class of 1829 of Harvard College—and they furnished a remarkable roll of talent for a single college class, as follows: The Doctor is Dr. Chandler Robbins; the Judge, George T. Bigelow, of the Supreme Court; the Speaker, F. B. Crowninshield, Speaker of the Massachusetts House of Representatives in 1848; the Mayor, the



Hon. George W. Richardson, of Worcester; the Member of Congress, George T. Davis, of Greenfield; the Reverend, James F. Clarke, of Boston; the mathematician, Professor Pierce, of Harvard; the Squire, Benjamin R. Curtis, of the Supreme Court; the "nice youngster," the Rev. S. F. Smith, author of "America;" the "laughing boy," the Rev. William H. Channing.

#### DEATH OF ADMIRAL FARRAGUT—FRANCHISE LAW IN RHODE ISLAND.

VIOLA, Iowa.  
1. Where and under what circumstances did Admiral Farragut die? 2. Is a property qualification necessary for citizenship in Rhode Island? If so, when was the law passed? L. HUNT.

*Answer.*—1. Admiral Farragut had been failing in health for two years previous to his death. In the summer of 1869 he visited the Pacific coast. On his way back to the East, in the latter part of the year, while in Chicago, he was taken suddenly ill with an affection of the heart. For some time his life was despaired of, but by skillful treatment he was sufficiently restored in a few weeks to go on. Several recurring attacks of the same nature showed conclusively that his once vigorous constitution was impaired. In the summer of 1870 the Navy Department placed at his disposal the steamer Tallapoosa, in which he was conveyed with his family to Portsmouth, N. H., to be the guests of Rear Admiral A. M. Pennock, in command of the navy yard there, who was a connection of the Admiral by marriage. In the "Life and Letters of David G. Farragut," written by his son, Loyall Farragut, the circumstances of the death of this hero of a hundred naval fights are thus described: "It seems as if the Admiral had a premonition of his approaching end, for, as the Tallapoosa neared Portsmouth, he arose from his sick bed at the sound of the salute being fired in his honor, dressed himself in full uniform, and went on deck. Looking up with a sad smile at his blue flag floating from the masthead he remarked: 'It would be well if I died now, in harness.' And shortly after his arrival an old sailor, who had charge of the sloop-of-war Dale, then dismantled and lying at the wharf, says that one day the Admiral wandered on board, and, after looking about the ship, stepped ashore, remarking, 'That is the last time I shall ever tread the deck of a man-of-war.' This foreboding proved true. At the commandant's house, on the 14th of August, 1870, at the age of 69, he quietly passed away. In the last scene he was surrounded by his family and loving friends, including many of his comrades-in-arms; and he died as he had lived, under the old flag, to which his bravery, skill, and fidelity had given an added glory." His body was taken to Woodlawn Cemetery, Westchester County, New York, for burial. 2. The law of Rhode Island, requiring a property qualification for suffrage, dates back to colonial times. When the State constitution was framed in 1843 a regulation was incorporated therein requiring of every foreign-born male citizen the possession, "in his own right, of real estate to the clear value of \$134, or which should rent for \$7 per year clear," before he could exercise the right to vote. Every male native citizen, on the other hand, was only required to pay taxes of \$1 per year or to serve one year in the militia in order to have the privilege of

suffrage. Though a change in this law was long desired, it was not effected until the recent election, on April 3, 1888, when a constitutional amendment, making important changes in the franchise law, was submitted to the people and carried. This new law abolished the property qualification heretofore existing which required every foreign-born citizen to own \$134 worth of taxed property before being permitted to vote. There are, it is said, over 31,000 foreign-born citizens in the State, but, in view of the suffrage restriction, most of those who had not the requisite property had neglected to become naturalized. It is estimated that about 5,000 of the 31,000 were already voters; that 4,000 others had been naturalized, leaving some 22,000 who have taken no steps in the matter. The registry law also requires registration in December in order to vote the following year, so that it will be some time before the increase in the voting population will be felt at the polls, but the ultimate effect of the measure will be an increase of fully one-third in the total vote of the State.

#### THE BESSEMER STEEL PROCESS.

WEBSTER CITY, Iowa.  
Describe the manufacture of steel by the Bessemer process, and give the percent of reduction in cost over the old method. F. E. SELLS.

*Answer.*—The Bessemer pneumatic process of steel-making consists in removing the carbon, silicon, etc. from pig iron by means of a blast of air forced through the molten metal. In 1855 Henry Bessemer first patented a process for decarbonizing iron by forcing air through it. Several subsequent patents were obtained by him to cover details of his process, but it was found that it did not yield uniformly satisfactory results, and for a time the process was abandoned, except by the inventor. Bessemer continued to experiment with the idea, but did not succeed in producing hard steel until another engineer, Robert Mushet, suggested the addition to common pig iron of a certain proportion of spiegeleisen, a white iron, containing from 7 to 12 per cent of manganese. To this suggestion the practical success of the Bessemer process is due. At first the utility of the invention was doubted, and Bessemer was obliged to start (1859) a small establishment of his own to prove the advantages of the process. It has now been generally adopted throughout the civilized world. The Bessemer process consists first in melting the metal, for which what is known as a cupola furnace is generally used. It is then run through a trough, directly into the converter, which is a pear-shaped vessel, consisting of an iron mantle, lined with a silicious material. It is usually made in two parts, upper and lower, for convenience, the bottom being in a separate conical piece and inserted from below, and the whole usually large enough to hold five or six tons of iron. On the movable bottom are fastened the tuyeres, which are a number of truncated cones of fine clay, each perforated with small holes. The converter, after being heated to redness, is laid in the horizontal position, and the molten iron is run into it. The blast of air is then turned on and the converter is tipped to the upright position. The air blast greatly increases the heat of the iron until a point is reached when the

carbon of the iron is entirely oxydized. This point is shown by the dropping of the intensely brilliant flame which has attended the passage of the air through the metal. The blast is then turned off, the converter turned to the horizontal position again, and molten speigleisen is poured into it. The action of uniting the two metals is attended with the escape of much gas and flame, and when this subsides the whole is run into molds. The great advantage of the Bessemer process was in the time gained by it.

#### ANCIENT PETRA.

WINFIELD, Kan.  
Describe the ancient city of Petra, which was supposed to have been hewn out of solid rock.  
SIMSON.

*Answer.*—Petra was an ancient city of Edom, fifty miles south of the Dead Sea. One thousand years before the Christian era, it is believed, this city was the principal stronghold of the Edomites. The country was first inhabited by the Horites, who excavated the remarkable dwellings cut in the natural rock that are still to be seen in Petra. The Edomites, who were the descendants of Esau, took possession of the country and drove out or absorbed the original race. The Edomites were continually at war with the Hebrews. The country was overrun by Nebuchadnezzar, but afterward revived and came to be of considerable commercial importance again. For many years Petra was the chief station for caravans from Southern Arabia and India. The country was laid waste by the Arabs in the seventh century, A. D., and its cities fell into ruins and were unvisited and forgotten until discovered again by the traveler Burckhardt, in 1812. The ruins of Petra are quite remarkable. They are entered through a winding street a mile long, which is lined on both sides with tombs hewn out of the rocky cliffs. At the opening of this avenue is a square basement—adorned with a portico of four beautiful Corinthian pillars, surmounted by a pediment, with an ornament on the top which resembles a lyre. At the ends of this are two pilasters that support a second pediment, which is divided into three parts, the central part being cylindrical, and bearing an urn on the top. There are nine female figures sculptured on the sides of the second pediment, which have been supposed to represent the nine muses and it is thought therefore, that this building was a temple of music or the arts. There are a number of tombs with very beautiful sculptures on them; there is also a temple with a finely carved front. The tombs are so numerous that Petra has been called by travelers "the Petrified City of the Dead," but it is probable that many of the excavations now called tombs were temples, altars and convents. There is also a huge temple cut in the rock, and a theater 120 feet in diameter, with thirty-three rows of seats, and capable of accommodating from 3,000 to 4,000 spectators, all cut in the solid rock.

#### TO MAKE A LEYDEN JAR.

RIVERTON, Neb.  
How can I make a Leyden jar? Does the kind of glass used make any difference?  
F. L. CROSS.

*Answer.*—A Leyden jar can be made by coating a common glass jar carefully inside and out to within an inch or two of the top, with tinfoil. The mouth should be closed with a wooden stopper,

through which passes the stalk of a brass knob, surmounting the whole. A chain depends from the stalk of the knob to the bottom of the jar inside so as to complete the connection between the knob and the coating inside. If this jar is placed on an insulated stool it may be charged from the prime conductor of an electric machine. When charged, the outside of the jar may be handled freely. But if, when the experimenter has one hand on the outer coating, he brings the other hand toward the knob on top, before the moment of contact a brilliant spark passes between his hand and the knob, and he experiences a shock of great violence. If he tries the experiment again a feeble shock and spark ensue, and the jar is then entirely discharged. As it is inconvenient, and indeed dangerous, to discharge the jar through the body, the electricity is usually taken from the jar by means of a discharging tongs. The Leyden jar is useful in making experiments when a single intense charge is needed. This intensity depends to an important degree on the thickness of the glass of the jar as well as its size.

#### NATHAN HALE, THE SPY.

ROME, Mich.  
1. Give an account of the death of Nathan Hale, as a spy. 2. Who wrote the poem beginning "To drum-beat and heart-beat," supposed to be descriptive of him and when was it written? H. M. T.

*Answer.*—1. When the British and American armies were encamped in the vicinity of New York, in 1776, the American commanders were very anxious to learn the exact strength and probable movements of their enemies, and, therefore, selected Nathan Hale, a young captain whose loyalty and courage were undoubted, to undertake the perilous service of a spy. At the headquarters of Washington, on Murray Hill, he received instructions directly from the commander-in-chief. He adopted the guise of a farmer, and succeeded in entering the British camp, where he had made a number of sketches and notes unsuspected, when he met a relative, who was a Tory, and who, recognizing him, surmised his true purpose and betrayed him to the British officers. Hale was taken to General Howe's headquarters and confined in the conservatory all night. The next morning he was brought before the officers. As he frankly avowed his name, rank, and character of a spy, it was not thought necessary to go through even the form of a trial, and he was handed over to the provost marshal to be hanged. That officer treated him very harshly, refused his requests to see a clergyman or to be allowed the use of a Bible, and finding that he had been allowed to write letters to his family and betrothed wife angrily seized the documents and destroyed them. Hale met his death with unfaltering courage, and his last words were: "I only regret that I have but one life to lose for my country." Hale was a native of Connecticut and a graduate of Yale College. He was teaching school at New London when the battle of Lexington occurred and immediately joined the patriot army. 2. Concerning the authorship of the poem referred to there has been some newspaper discussion, but it was unquestionably written by Francis M. Finch, a New York lawyer, and was first published, we think, about 1839. It may



be found in the "Little Classics," published about 1875, by James R. Osgood & Co. As this fine poem may be unfamiliar to many of our readers, we reproduce it here:

To drum-beat and heart-beat,  
A soldier marches by;  
There is color in his cheek,  
There is courage in his eye;  
Yet, to drum-beat and heart-beat,  
In a moment he must die.

By starlight and moonlight,  
He seeks the Briton's camp;  
He hears the rustling flag  
And the armed sentry's tramp;  
And the starlight and moonlight  
His silent wanderings lamp.

With slow tread and still tread,  
He scans the tented line;  
And he counts the battery guns  
By the gaunt and shadowy pine;  
And his slow tread and still tread  
Gives no warning sign.

The dark wave, the plumed wave,  
It meets his eager glance;  
And it sparkles 'neath the stars  
Like the glimmer of a lance,—  
A dark wave, a plumed wave  
On an emerald expanse.

A sharp clang, a steel clang,  
And terror in the sound!  
For the sentry, falcon-eyed,  
In the camp a spy hath found:  
With a sharp clang, a steel clang,  
The patriot is bound.

With calm brow and steady brow,  
He listens to his doom;  
In the look there is no fear,  
Nor a shadow-trace of gloom;  
But with calm brow, and steady brow,  
He robes him for the tomb.

In the long night, the still night,  
He kneels upon the sod;  
And the brutal guards withhold  
E'en the solemn word of God!  
In the long night, the still night,  
He walks where Christ hath trod.

'Neath the blue morn, the sunny morn,  
He dies upon the tree;  
And he mourns that he can lose  
But one life for Liberty;  
And in the blue morn, the sunny morn,  
His spirit-wings are free.

But his last words, his message words,  
They burn, lest friendly eye  
Should read how proud and calm  
A patriot could die.  
With his last words, his dying words,  
A soldier's battle-cry.

From Fame-leaf and Angel-leaf,  
From monument and urn,  
The sad of earth, the glad of heaven,  
His tragic fate shall learn;  
And on Fame-leaf and Angel-leaf  
The name of Hale shall burn!

In this connection we may remark that a fine

poem, in the peculiar meter of the above, written on the death of General Grant by the author of "The Veteran and His Pipe," was printed in *THE INTER OCEAN* Aug. 8, 1885, the day the great hero was buried.

SENATOR JOHN J. INGALLS.

Give a short sketch of the life of Senator Ingalls.  
INDEPENDENCE, IOWA.  
W. S. Y.

*Answer.*—Senator John James Ingalls is a native of Massachusetts, having been born at Middleton, Essex County, Dec. 29, 1833. He graduated from Williams College, Williamstown, Mass., in the class of 1855. Studying law, he was admitted to the bar in 1857, and the year following removed to Kansas. He early took an active interest and part in public affairs, and was, in 1859, a member of the Wyandotte constitutional convention. In 1860 he was Secretary of the Territorial Council and Secretary of the Senate in 1861. In 1863 he served as a member of the Kansas State Senate from Atchison County. During the years 1863-4-5 he was the editor of the *Atchison Champion*, and was defeated as anti-Lane candidate for Lieutenant Governor in 1862 and again in 1864. During the trying times in Kansas he was Major, Lieutenant Colonel, and Judge Advocate of Kansas Volunteers from 1862 to 1865. He was elected to the United States Senate as a Republican to succeed S. C. Pomeroy, and took his seat on March 4, 1873; was elected his own successor, and was a third time elected to the same office. His present term of service will expire March 3, 1891. Senator Ingalls is now President of the Senate. In the year 1884 he received the honorary degree of LL. D. Senator Ingalls is one of the most pronounced men in the Senate, fearless, able, of unimpeachable integrity, and a most capable member of the body.

EIGHTY-SEVENTH ILLINOIS INFANTRY.

Give a brief history of the Eighty-seventh Illinois Infantry.  
CARROLL, Ind.  
J. L. HUGHEY.

*Answer.*—The Eighty-seventh Illinois Infantry was enlisted in August, 1862; was organized at Shawneetown, and mustered in Oct. 3. In January following it was sent down to Memphis. In the camp there the measles broke out in virulent form and before it was checked had cost the regiment 250 men in dead and disabled. May 9 the regiment was sent down to Young's Point, and was there engaged in picket and fatigue duty until May 21, when it crossed the river and took part in the fight at Warrenton. There it remained until June 23, when it was assigned a place in the trenches before Vicksburg. After the surrender it moved with Sherman's army on Jackson; July 20 came back to Vicksburg, and July 25 embarked for Natchez. In August it went down the river to Brashear City, whence it was engaged in skirmishing and scouting through the surrounding country for some time. It took part in the Red River campaign, and was in the battles of Wilson's Hill and Sabine Cross roads, and later at Marksville. It went into camp at Morganzie Bend May 21, 1864, and remained there during the summer, engaged in foraging, scouting, and almost constant skirmish fighting. Sept. 4 it embarked for White River Island, where it remained until January, 1865.

three companies having been detached for duty at St. Charles, Ark. In January the regiment moved to Helena, Ark., where it remained doing scouting service until June 16, when it was mustered out and returned home.

#### THE SWAMP-LAND ACT.

ROBINSON, Wis.  
Give the provisions of the swamp-land act recently passed by Congress. L. W. G.

*Answer.*—The swamp-land act, at present writing, has only passed the Senate. Its provisions require the Secretary of the Interior to adjust the swamp and overflowed land accounts of any State, and give the State indemnity in cash to the full amount of the purchase money received by the United States for all lands sold for cash. For all such lands otherwise disposed of by the United States, except by grants to such States or by homestead entries, for which indemnity has not been granted, a cash indemnity of \$1.25 per acre is allowed. All claims under the act are to be presented within three years from the approval of the act. This bill will, it is estimated, take \$20,000,000 from the Federal Treasury for the benefit of the States.

#### ANNIE LAURIE.

CHICAGO.  
Who wrote the well-known song "Annie Laurie?" R. R.

*Answer.*—It is interesting to know that the fair heroine of the ballad of "Annie Laurie" was a real character. She was born at Maxwellton, Dec. 6, 1682, and the records of her birth and baptism are still extant. The following record of the origin of the song is taken from a trustworthy old collection of ballads edited by Charles Kirkpatrick Sharpe, of Hod-dam, Eng., who says: "Sir Robert Laurie, first baronet of the Maxwellton family (created March 27, 1685), by his second wife had three sons and four daughters, of whom Annie was much celebrated for her beauty, and made a conquest of Mr. Douglas, of Fingland, who composed the following verses, under an unlucky star—for the lady some time after (in 1709) married Mr. Ferguson, of Craigdarroch." The original words were as follows:

Maxwellton braes are bonnie,  
Where early fa's the dew;  
Where me and Annie Laurie  
Made up the promise true;  
Made up the promise true,  
And ne'er forget will I,  
And for bonnie Annie Laurie,  
I'll lay me down and die.

She's backit like the peacock,  
She's briestit like the swan,  
She's jimp about the middle,  
Her waist ye weel nicht span,  
Her waist ye weel nicht span,  
And she has a rolling eye,  
And for bonnie Annie Laurie,  
I'll lay me down and die.

The present accepted version of Annie Laurie and the air are the composition of Lady Jane Scott, whose maiden name was Alicia Anne Spottiswoode. She married in 1836 Lord John Douglas Scott, a son of the Duke of Buccleuch. She was the author of both words and music of a

number of popular songs of her country. The following is her version of this song:

Maxwellton braes are bonnie  
Where early fa's the dew,  
And it's there that Annie Laurie  
Gie'd me her promise true,  
Gie'd me her promise true,  
Which ne'er forget shall be,  
And for bonnie Annie Laurie  
I'd lay me down and dee.

Her brow is like the snawdrift,  
Her neck is like the swan,  
Her face it is the fairest  
That e'er the sun shone on,  
That e'er the sun shone on,  
And dark blue is her e'e,  
And for bonnie Annie Laurie  
I'd lay me down and dee.

Like dew on the gowan lying,  
Is the fa' o' her fairy feet;  
And like winds in summer sighing,  
Her voice is low and sweet,  
Her voice is low and sweet,  
And she's a' the world to me,  
And for bonnie Annie Laurie  
I'd lay me down and dee.

#### ASBESTOS.

Owosso, Mich.  
Describe asbestos, tell where it is found, and what its uses are. STUDENT.

*Answer.*—Asbestos or asbestus, (from a Greek word meaning unconsumable) is a variety of hornblende. Indeed, the word is applied to several varieties of the hornblende family which readily pass into fibrous forms. It consists of long fibers, fine, crystalline, and elastic, with a silky luster, and easily separable by the fingers. It derives its name from being especially indestructible by fire. A single fiber of asbestos may be fused to a white enamel, but in the mass it is capable of resisting ordinary flame and heat, and for this reason has always been regarded with much interest. It forms, when woven into cloth, an incombustible texture, which only needs to be thrown into the fire to be cleansed. Charlemagne is said to have had a table cloth made of it, which he used to have thrown into the fire after dinner to the amazement of his guests. The ancients were familiar with the incombustible qualities of asbestos, though they were so ignorant of its origin as to suppose it to be a vegetable substance. They wove cloth of it for the purpose of wrapping the bodies of the dead on the funeral pyre, in order to keep their ashes separate from those of the wood of the funeral pile: they also made napkins of it, which were cleaned by throwing them into the fire, and they used a fine variety for the wicks of votive lamps, which were never allowed to go out. There are several varieties of asbestos. Amianthus, so-called from a Latin word meaning undissolved, is the rarest and most delicate kind, its fibres being very white, long, and delicate. It is found in the Pyrenees, in some parts of the Alps, in Sweden, in the Ural mountains, in Silesia, and New South Wales. Some very fine deposits have been recently discovered in Canada. The most beautiful specimens come from Tarentaise, in Savoy, and



from Corsica. Common asbestos is darker in color and heavier than the variety named, and is more brittle and irregular in structure. In the blow-pipe it can be fused with difficulty. It is found in parts of England and Scotland, and occasionally elsewhere. Mountain leather and mountain cork are two other inferior varieties; in color a dirty white or brown. Mountain leather is in thin, flexible sheets, and mountain cork takes its name from being not unlike common cork, and so light as to swim on water. These are found in some parts of England. Mountain wood is a soft, tough, opaque, brownish-colored variety of asbestos, much heavier than the others, and melting to a black slag in the blow-pipe flame. This is found in the Tyrolese Mountains and in Scotland. It was thought that the use of asbestos for fire-proof cloth would develop into an important industry, but the texture has been found to lack strength. Paper has also been made from it, which would prove invaluable in case of fire for important documents, if it were not for the fact that the paper is rather tender for use, and the writing disappears under a red heat. More success has attended the use of asbestos for fire-proof roofing and flooring, for a non-conducting envelope for steam pipes, and for the packing in fire-proof safes. It is also used to great advantage in the packing of pistons in steam engines, and for fire-proof paint.

## PHOTOGRAVURE.

JANESVILLE, Wis.  
Explain the photogravure process, and give pronunciation of the word, which is not in Webster's Dictionary?  
C. L. VALENTINE.

*Answer.*—The photogravure process is the process of engraving by photography. The art, which can be performed by several different methods, is also known by the names of photo-engraving, photo-zincography and process engraving. In ordinary zincography the picture is laid by the help of transfer paper on a zinc plate, the parts to be protected are then covered with a varnish that will resist acid, and the whole is then dipped in a bath of dilute nitrous acid. This is repeated until the biting in is sufficient, when the plate is dried and the ink taken off with benzine. In another process, brass plates are used which are covered with white wax, the design being drawn with an etching point upon the wax. The plate is then submitted to a powerful acid which acts upon the parts of the metal exposed by the lines, but does not affect the wax. In photo-zincography the drawing is photographed to the right size, and an ordinary negative on glass is taken. This is then laid on a sensitized zinc plate on which the picture is printed by the action of light. The zinc is coated with bitumen, and after the picture is printed so much of the bitumen as has not become insoluble by the action of light is removed by a wash of turpentine. In another process, the photographic etching process, the negative is printed on sensitized carbon paper, which is then laid down on a polished zinc plate, and being wet, all the carbon paper that does not hold the lines of the drawing is readily removed. The plate is then bitten in an acid bath. In what is called the Ives process, a negative is applied to a gelatine plate sensitized with bi-chromate of pot-

ash. This plate is then put into water, and all the parts not touched by the negative will swell. A cast is then taken of this in plaster of paris, which serves to form a base for electrotypes. The lines of engraving can also be reproduced by photography, and a recent process produces successfully intaglio plates. Photo-engraving has enormously cheapened the reproduction of pictures, but it does not give plates that print with the clearness and distinctness of those taken from wood engravings. The word photo-gravure is pronounced with the accent on the third syllable of the compound word, in which the vowel has the short a sound—photo-grav'ure.

## WENDELL PHILLIPS.

NO. FARMINGTON, Mich.

Give a brief biography of Wendell Phillips and a list of some of his writings.  
SUBSCRIBER.

*Answer.*—Wendell Phillips was born in Boston, Mass., Nov. 29, 1811. He graduated at Harvard in 1831, studied law, and was admitted to the bar in 1834. His sympathies were warmly aroused by the abolitionists, and in 1836 he joined that party and gave up the practice of law because he was unwilling to act under an oath to the Constitution of the United States, a document which the abolitionists declared to be "a league with death and a covenant with hell." He further refused to recognize the authority of the Constitution by voting, or in any other manner, and publicly advocated a dissolution of the Union to free New England from responsibility for the crime of slavery. But when the Southern States seceded he strongly advocated war as a means of bringing about the freedom of the slaves. He was a strenuous advocate, after the emancipation proclamation had been issued, of arming and enfranchising the negroes, and having become President of the Anti-slavery Society in 1865 he continued its existence in behalf of the freedmen of the South until the fifteenth amendment had been adopted, when the society was dissolved. Mr. Phillips was also an advocate of woman suffrage, of prohibition, of prison reform, and of a greenback currency, and he made many public speeches in advocacy of these ideas. He was one of the most eloquent and polished of American orators. He wrote no complete books, but a collection of his letters, speeches, and papers was published about 1869.

## THE ABORIGINES OF AMERICA.

NEW RICHMOND, Mich.

Give the location of the different Indian tribes before they were driven from their original holdings by the white men. Is there any record of the wars between different tribes before the coming of the white men?  
I. O. SHERMAN.

*Answer.*—The American aborigines belonged to several distinct families or nations. Above the sixtieth parallel of latitude the whole continent from Labrador to Alaska was inhabited by the Esquimaux. Their name means "the eaters of raw meat." Lying south of the Esquimaux, and embracing the greater part of Canada, and nearly all of that part of the United States east of the Mississippi River and north of the thirty-seventh parallel, spread the great family of the Algonquins. This occupied the whole of this vast territory to the exclusion of all other races except the Winnebagoes on Lake Michigan, who belonged to the Dakota family, and the Huron-Iro-

quois family, the latter occupying mainly the country now included in the province of Ontario and New York State. The Algonquin family took its name from tribes on the Ottawa River, Canada, and comprised, above the St. Lawrence River and the lakes, the Nasquapees, Montagnais, Algonquins, Ottawas, and Killistinons or Crees; on the Atlantic coast in the territory of the New England States, the Micmacs, Abenakis, Sokokis, Mohegans, Pequods, Narragansetts, and Massachusetts; farther west, the Delawares, Lenni-Lenape, Nanticokes, and the Powhattan Confederacy of Virginian tribes; in the northwest territory the Chippewas, Sacs and Foxes, and Menominees between Lake Superior and the Mississippi River, the Ottawas between Lakes Superior and Michigan, the Kickapoos and Illinois between the Mississippi and Wabash Rivers, the Pottawatomies and Miamis between the Wabash and the Scioto. The domain of the Huron-Iroquois extended over the country reaching from Georgian Bay and Lake Huron to Lakes Erie and Ontario, south of these lakes to the valley of the Upper Ohio, and eastward to the River Sorel. At the time of its greatest power and influence, the Huron-Iroquois included no less than nine allied nations. These were the Hurons proper, living north of Lake Erie; the Eries and Andastes, south of the same water; the Tuscaroras of Carolina, who ultimately joined their kinsmen in the North, and the Senecas, Cayugas, Onondagas, Oneidas, and Mohawks, constituting the Iroquois or famous Five Nations of New York. South of the Algonquins were the families of the Catawbias and Waccoa in the Carolinas, and west of these the Cherokees. Farther south were the Mobilian nations, covering the country between the Lower Mississippi and the Atlantic. The principal tribes of the Mobilians were the Yamassees and the Muskogees, or Creeks, of Georgia; the Seminoles, of Florida, and the Chickasaws and Choctaws, of Mississippi. Within this territory were also included the Natchez, a tribe east of the Mississippi River, and the Uchees, of Northern Georgia, these two tribes being distinguished from the others by some striking peculiarities of language. Going to the north again, we find the territory west of Hudson Bay and extending southward to the fiftieth parallel, occupied by the different tribes of the Athabaskan family. South of these and west of the Father of Waters was the great and widely spread race of the Dakotas. The southern boundary of this family was plainly marked by the Arkansas River. The included tribes were the Assiniboines, Minnetares, Mandans, Crows, Sioux, or Dakotas, Poncas, Omahas, Iowas, Ottobes, Arapahoos, Kansas, Missouris, Osages, and Arkansas. South of the Dakota tribes was the Pawnee family, including the Pawnees, Rickarees, Huecos, and Wichitas. Another important family was that of the Shoshones, including the Boies, Nez Perces, Bruneaux, and Bannock Indians, and south of them the Utes, and the Comanches inhabiting the territory now included in Texas. The tribes inhabiting the country between the Rio Colorado and the east branch of the Rio Grande, the Navajoes, the Apaches, and the Lipans, are classed by ethnologists as part of

the Athabaskan family. The Pacific coast was occupied by three great families—the Selish, the Klamaths, and the Californian Indians—these including minor families, and a large number of tribes, large and small. Further southward there lived, when this country was discovered, the famous races of the Aztecs and the Toltecs. The above statement outlines the distribution of the red race on this continent, though it must be admitted as imperfect, since we knew almost nothing concerning the races of the West until after those of the East had been virtually crowded out of existence. As the Indians had no written language, nothing is known of their history previous to the coming of the white man, except through their traditions.

#### HOW FLIES WALK ON THE CEILING.

VIRBEN, Ill.  
M. R. C.  
Explain how flies walk on the ceiling.

*Answer.*—It is curious how the understanding of many common and apparently simple things becomes modified by fuller investigation. The explanation of how flies walk on the ceiling, as given in some of the old readers, was based on the theory that each little fly-foot was a miniature air-pump—a theory now regarded as fallacious. This supposed that the bottom of the foot adhered by suction to the glass, thus pressing out all air beneath it, and was held in place by the pressure of the air without. But flies have been known to walk on the inner side of a glass receiver of an air-pump after all the air has been exhausted, which shows that they do not need the pressure of the air to uphold them. Moreover, a microscopic examination of a fly's foot clearly disproves the "sucker" theory, for the foot cushion is covered with hairs that prevent all close contact with the glass. A later theory, propounded by Hooke, was that flies stick to the glass by means of a viscous substance exuded from the hairs in their feet. This theory was thoroughly investigated some eight years or so ago by Dr. Rombouts who demonstrated that it was only partly sound, for though these hairs do certainly exude an oily liquid, the liquid is not sticky and does not harden when dried. It is to Dr. Rombouts' experiments that science owes what is now regarded as the true theory of the walking of flies on smooth substances, that they hang on by the help of capillary adhesion—the molecular attraction between solid and liquid bodies. By a series of nice calculations, such as weighing hairs and measuring their diameters, and sticking the cut end of hair in oil or water to make it adhere when touched to glass, this scientist proved that capillary attraction would uphold a fly were it four-ninths as heavy again as it is at present. It is true that the foot-hairs are very minute, but as each fly is said to be furnished with 10,000 to 12,000 of these we need not be surprised at what they can do. Reasoning from this theory we would conclude that flies find it difficult to mount a glass slightly dampened, because of the repulsion between the watery surface and the oily liquid exuding from the feet, and they are likewise impeded by a slight coating of dust, because the interspaces between the hairs



are filled with dust, and observation seems to show this to be the case. When we see a fly making his toilet, he is not, as we might suppose, cleaning his body, but his feet, so that they may the more readily adhere. Every one has noticed how quickly a fly takes flight, even when he has been dozing in the same position for half an hour. This new theory makes it easier to understand how he can so readily detach himself; for the air-pressure theory and the "gum" theory both implied more or less effort in releasing his feet from their involuntary hold.

#### JAPAN EXTRADITION TREATY.

Have we an extradition treaty with Japan? If so, when was it adopted?

**Answer.**—An extradition treaty between the United States and Japan was negotiated in 1886 by our minister to Japan, Richard B. Hubbard, of Texas, and the Japanese Minister of Foreign Affairs, Count Inouye Kaoru. This treaty was noteworthy as the first extradition treaty ever negotiated between an Asiatic and an Occidental power. It was ratified by the Senate during the session of 1886-87.

#### LIFE AND DEATH OF ALEXANDER II.

Give a sketch of the Czar Alexander II. of Russia and the circumstances of his death and the trial of his murderers.

**Answer.**—Alexander II. was a son of the Czar Nicholas, and was born April 29, 1818. At the time of his birth there seemed no probability of his succeeding to the throne, as his father was the third son of Paul I., and between him and the reigning Emperor, Alexander I., in direct succession, was the Grand Duke Constantine. But Constantine renounced the succession, and Alexander I., dying without heirs, in 1825, was succeeded by Nicholas. The earlier training of the young prince was intrusted to his mother. His father wished to make a soldier of him, and gave him a military education, but the youth was of a gentle nature and loved study better than martial life. The old Czar was much vexed, and once said, "My son is an old woman; there will be nothing great done in his time." The young man spent much time in travel through Europe, and imbibed many liberal ideas. When he came to the throne of the exhausted empire, after the humiliating experience of the Crimean war, in March, 1855, Alexander showed that "peace hath her victories no less renowned than war." He immediately began a system of reform which entirely changed the character of Russian society and government. He emancipated the serfs and established a system of peasant proprietorship in land, on terms most favorable to the lower classes, though somewhat at the expense of the nobility. He reformed and purified the judiciary, and established the trial by jury. To a great extent, too, he reformed the civil service, and did more toward the encouragement of education and industry than any Russian Emperor since Peter the Great. While using his autocratic power to accomplish these reforms he met with much opposition from the conservative class, but this counted for little. More serious was the enmity of the secret society known as the nihilists, which

attacked him, not for any acts of tyranny, but as the representative of despotic power. The nihilists are to Russia what the socialists or communists are to other countries—avowed enemies of the government and religion, and of the existing structure of society. As early as 1866 this society decreed the death of the Czar, and made an attempt to kill him. Another attempt was made the following year. There was a terrible outburst of nihilism all over the country at this time, and the entire force of the Russian government was then turned toward the extinction of these dangerous doctrines. The measures adopted were certainly harsh, but they seemed necessary to suppress a class which was banded for the destruction not only of all government, but also of all social order. The order of secret police, an old Russian institution, was revived, and political prisoners were tried in secret and by special tribunals. These measures led to the conviction and transportation to Siberia of many whose "sympathy with nihilism" consisted only in their holding democratic ideas concerning the rights of the people. The natural indignation roused by the arbitrary and apparently unjust treatment of prisoners both strengthened and encouraged the nihilists, and the plots against the Czar thickened. In April, 1879, a school-master fired at him four times in the palace garden. In November a dynamite mine was exploded on the Moscow Railroad, which tore a baggage train to pieces, that, by a change in the timetable, had preceded the Emperor's train. In February, 1880, another mine was exploded in the Winter Palace, which was intended to kill the Czar while at dinner, but, fortunately for him, he was a few minutes late. Finally, March 13, 1881, as the unfortunate monarch, after witnessing a military parade, was returning home through the streets of St. Petersburg, a glass bomb was thrown so as to explode behind the imperial carriage, making a complete wreck of the vehicle, but injuring no one. The Czar sprang out, only to meet his death from a second bomb which exploded at his feet. Fatally injured, but still living, he was conveyed to the Winter Palace, where he breathed his last three hours later. Of the assassins, one was immediately arrested, who gave his name as Nicolai Roussakoff, and confessed that he threw the first bomb. The house where Roussakoff obtained the bomb was discovered by the police shortly after the murder, and the proprietor virtually confessed his guilt by committing suicide. An inmate of the house, a woman by the name of Hessa Helfman, was arrested as an accomplice. A young man, Timofei Michaeloff, who entered the house while the police were in possession, was also arrested, but not till he had killed one of the police. Andrei Telejkoff, another nihilist, who was arrested on suspicion two days before the culmination of the plot, confessed complicity in the crime and implicated Roussakoff. The information obtained from the prisoners and from papers discovered at their lodgings led to the discovery of a mine which the nihilists were digging under the Winter Palace, and in which they had already stowed eighty-seven pounds of dynamite. It also led indirectly to the arrest, March 23, of Sophie

**Peroffski**, daughter of a councillor of the ministry of domains, and a prominent actor in the conspiracy. She confessed to having been present both at the late assassination and at the explosion of the mine under the train near Moscow, and to giving the signal for action in each case. These prisoners were all tried by court-martial, and convicted of murder. All were executed April 15 following, except Hessa Helfman, whose sentence was commuted to imprisonment for life.

#### QUOTATIONS FROM EVANGELINE.

PEKIN, Ill.  
Please explain the meaning of the following passages from Longfellow's "Evangeline": "I Plashed like the plane tree the Persian adorned with mantles and jewels." Part I., Canto II., line 23, 2. "Thou art too fair to be left to braid St. Catherine's tresses." Part II., Canto I., line 48, 3. "Like a silent Carthusian." Part II., Canto III., line 146. C. L. FARRINGTON.

**Answer.**—1. It is said that Xerxes, the great Persian ruler, in his expedition against Greece, found a plane tree of remarkable beauty, and was so enamored with its perfect outline and graceful movement that he decked it with rich mantles as though it were a woman, and placed it under the care of a guardian. Herodotus tells the story thus, and another writer, improving on the tale, says that the emperor adorned the tree with a necklace and bracelets. 2. To braid St. Catherine's tresses is to live a single life. Both St. Catherine of Alexandria and St. Catherine of Sienna were celebrated for their vows of virginity. 3. The Carthusian order of monks was founded in the twelfth century, and was perhaps more severe in its rules than any other religious society. One of the vows requires almost perpetual silence; the monks are allowed to speak to one another only once a week. Their discipline is most rigid, and the labor required of them is unrelenting. The first monastery of this order was established at Chartreux, near Grenoble, in France, and the Latinized form of the name of the place gave the word Carthusian.

#### A CLEARING-HOUSE.

GENEVA, Ill.  
Describe the operations of a clearing-house. R. MIDWAY.

**Answer.**—A clearing-house is an agency established by the banks of a city to which all checks drawn upon one city bank and deposited in another are sent for payment. Every morning there is a clearance or settlement of accounts, in which the checks deposited in each bank and the checks drawn upon each bank are separately summed up and compared. If there is more deposited in a bank than there is drawn upon it, the bank receives the difference in cash. If the reverse is the case, the bank pays the balance instead of receiving it. The term clearance means either the act of settlement or the sum of all the checks presented for payment. The amount of business done by the clearing-house is a pretty sure index of the general condition of business.

#### COUNT VON MOLTKE.

PHILADELPHIA, Pa.  
Give brief biography of Count von Moltke. A. H.

**Answer.**—Helmuth Karl Bernhard, Count von Moltke, was born near Mecklenburg in 1800, the son of a retired Prussian army officer. His parents moved to Copenhagen in 1811, where the son was

educated at the Military Academy, and in 1819 became an officer in the Danish army at the age of 19. In 1822 he resigned his commission and began the whole military course again in the Berlin Army School. In 1832 he became an officer on the general staff, and in 1835, having reached the rank of captain, he went to Constantinople and remained there some time, acting as military adviser to the Turkish officers. In 1839 he returned to Berlin. He continued to be advanced in his rank on the staff, in 1858 reaching the rank of general. He took a prominent part in the Schleswig Holstein war in 1864. The plan of the campaign of the short and brilliant war of 1866 with Austria was his work, and the great battles of Koniggratz and Sadowa were fought under his direction. After the latter battle he negotiated the truce and the peace preliminaries. The promptness with which the Prussian army took the field after the French declaration of war in 1870 was directly due to Moltke's skill in organization, and its great success to his strategic ability. After the close of the war Moltke was made a field-marshal, and received the title and dignity of count. In 1872 he was made a life member of the Upper House in the German Reichstag. In this assembly he is known as "the great silent one," but he has spoken several times with much effect on military affairs and against the socialists.

#### SEVENTEENTH IOWA INFANTRY.

RAVENNA, Wis.  
Give history of Seventeenth Regiment of Iowa Infantry. L. T. PARRISH.

**Answer.**—The Seventeenth Iowa Infantry was organized at Keokuk, Iowa, and mustered in April 16, 1862. May 5 it started forward to join the army before Corinth. Later it was in the battle of Iuka. It was generally employed in scouting and picket duty, and guarding railroads during the fall and winter. In the spring it crossed the river, and going down to Grand Gulf, took part in the battles of the Vicksburg expedition. At Champion Hills it lost 57 men in killed and wounded from a total of 226 engaged. It was in the assault of May 22, where it also lost heavily. It took part in the Fort Hill expedition where it lost 37 men. After the surrender the regiment was sent to Arkansas, then recalled to take part in the Chattanooga campaign. At Missionary Ridge it lost 19 men in killed and wounded. With the Fifteenth Army Corps, under the command of General Logan, it took part in the historic "march to the sea," and then returned home for muster out.

#### KING RAMIREZ.

CHICAGO.  
In the March number of Harper's magazine is an engraving of a curious picture called "King Ramirez." Who was this king and what does this picture represent? J. M. O.

**Answer.**—The picture in question is engraved from one of Don Jose Casado's great paintings. It represents the king standing in a large vault-like apartment with some fifteen or twenty dead men, the heads severed from the bodies, lying around him. The incident given in this picture is as follows: King Ramirez or Ramiro I. was King of Aragon in Spain in the first half of the twelfth century. He was much troubled by outbreaks and rebellions among the turbulent nobles in his



kingdom. In the year 1136 it is said, the king was determined to take some decisive measures to quell this class, and went to Frotardo, Abbot of San Pedro de Tomeras, for advice. The learned priest was walking in his garden when the royal guest arrived, and while the king laid the case before him, he continued to walk, and with his stick cut off the tops of the tallest plants. The king took the hint, and returning to the palace, summoned his grantees to the palace to consult on the casting of a bell which should be heard all over Aragon. As each noble arrived he was overpowered and his head was cut off. The heads and headless bodies were all thrown together into a vault under the palace. In the palace of the kings at Saragossa this vault is still to be seen, and it is yet called La Campana (the bell) in memory of the above tragic incident.

#### THE FRENCH IN THE AMERICAN REVOLUTION. COLBY SPRINGS, IND.

How much aid did the United States receive from France in the revolutionary war, how much money and how many arms and soldiers? Why did not the United States aid France when she asked for help in 1794?

READER.

*Answer.*—The friendship of nations is always selfish, and can never be counted on when the selfish consideration is wanting. The aid given to the United States by France in our struggle with the mother country was unquestionably invaluable, and it is very doubtful if, without it, the American forces could have been victorious; but there is no doubt that it was given, not out of sympathy for America, but from a desire to injure England. Smarting under the loss of their late North American empire, and anxious to share American trade, the French readily consented to aid the revolted colonists. The first suggestion of this policy was made in the form of a memorial submitted to the French King by Pierre de Beaumarchais, a diplomatist and courtier, in September, 1775, in which the writer strongly insisted that aid from the French Government to the American colonies was a political necessity. The matter was taken into consideration immediately by the French King and the Minister of Foreign Affairs, Vergennes, and soon after a French gentleman, De Bouvoloir, who had previously visited America, was sent over to ascertain the actual state of feeling in this country, and whether the struggle was likely to be prolonged beyond the possibility of reconciliation with Great Britain. De Bouvoloir held several secret conferences with Franklin and other members of the Continental Congress. These gentlemen wished to know if France would aid the Americans and at what price. De Bouvoloir replied that France was well disposed, and if she should give aid it would be on just and equitable conditions. He, however, advised against sending an embassy from the Congress to the French Government, because, he said, "What happens in France is immediately known in England." He reported to the French Government that the desire in America for total separation from the mother country was general and strong. Vergennes then opened communication with Arthur Lee, of Virginia, who was in London, sending Beaumarchais to confer with him. It was agreed that the French Government would aid the Americans

with arms and military stores to the value of \$200,000. The affair was conducted secretly, and the supplies were to be transmitted under the fictitious firm name of Roderick Hortales & Co. Before or just about the time of the arrival of De Bouvoloir in this country, Congress had appointed a committee of secret correspondence, which was to ascertain if possible the extent to which aid might be procured for the colonists from the European governments. While the negotiations of Beaumarchais and Lee were going on, one of the committee above mentioned, Silas Deane, arrived in Paris. He was received kindly by both Vergennes and Beaumarchais, and consulted by the latter as to the nature of supplies to be sent. It was agreed that Hortales & Co. should send the supplies by way of the West Indies, and that Congress should pay for them in tobacco and other American products. Under this arrangement Beaumarchais sent several vessels with 200 cannon and mortars and a supply of small arms; also 4,000 tents and clothing for 30,000 men. After the Declaration of Independence, commissions were sent by the Continental Congress to the court of France. The commissioners were allowed by the French Government a quarterly allowance of \$400,000, which was to be repaid by Congress; also, half as much more in the form of a loan from the farmers general, to be repaid in tobacco. The money was largely to purchase arms and supplies for the troops and to fit out armed vessels—a business chiefly performed by Deane, aided by Beaumarchais. Congress was led to believe, it is said by the assertions of Lee to that effect, that all the supplies sent by Beaumarchais were gratuities of the French King. This belief prevailed until the close of 1778, when Franklin, on inquiry of Vergennes, was informed that the King had furnished nothing; he simply permitted Beaumarchais to be provided with articles from the arsenals upon condition of replacing them. Congress, therefore, unwilling to compromise the French court, declared in January, 1779, that the colonies "had never received any species of military stores from the court of France." Beaumarchais then put in a claim for payment for what he had forwarded, and this led to a law suit which lasted fifty years, and was settled in 1835 by the payment of \$200,000 to the heirs of Beaumarchais by the United States Government. To return to the transactions between the two countries. A part of the commission of Deane was to engage a number of foreign officers, especially in the departments of artillery and engineering, who would aid the colonists. In this matter he went considerably beyond his instructions, and thus got himself into trouble. However, he was instrumental in sending over a number of most meritorious officers, who were of the greatest possible assistance to the colonial army, among whom was the Marquis de la Fayette, a brilliant and gifted youth of nineteen years, belonging to one of the wealthiest and most illustrious families in France. This young man fitted out a ship secretly and at his own expense, and sailed directly for the United States, thus escaping orders sent by the French Government to

the West Indies to intercept him. Arriving at Philadelphia, he immediately offered his services to Congress to serve as a volunteer without pay. He was accorded the rank of Major General, was placed on the staff of Washington until a command was ready for him, and between him and the Commander-in-Chief sprang up a warm friendship which never weakened in ardor. When Deane was recalled by Congress in 1777, John Adams was sent in his place, and this minister was strongly urged to procure a loan from the French Government, as the colonial army was already in sore straits for money. After Burgoyne's army had surrendered, and Lord North had brought a bill proposing conciliation into the British Parliament, the French Government, which up to this point had refused to give the colonists any assistance openly, now expressed a willingness to form a treaty with them. Two treaties were, therefore, signed—one of friendship and commerce, the other of defensive alliance. The treaty of alliance contained provision for mutual action in time of war and in making peace, and also a mutual guarantee of territory in America. In accordance with this treaty a French fleet was immediately fitted out for the assistance of the Americans. It consisted of twelve ships of the line and four frigates, commanded by the Count d'Estaing. This fleet reached America in July, 1778, bringing 4,000 French troops. During this year (1778) the commissioners at Paris had obtained from the French court a loan of 3,000,000 livres, about \$500,000, but this proved a very insufficient fund to meet the engagements they had entered into for the purchase of stores and to meet the bills drawn upon them by Congress. For whenever a claimant against the Colonial Government was too importunate he was silenced with a bill drawn on the French Commissioners, as though they had behind them all the wealth of European treasuries. This was often done when there was no assurance that the commissioners had any of their allowance on hand to meet it, a proceeding which displeased the French Secretary, Vergennes, very much. The condition of French finances at this time was anything but prosperous, and as the American war seemed as far as ever from a decisive termination by victory of either side, the French Ministers strongly advised proposals of peace. In the fall of 1778, Lafayette went back to France to plead the cause of the colonies. The talk of peace was very discouraging, but he pleaded the case with such eagerness and eloquence that he secured the promise of another fleet and army, and also a supply of arms and clothing. In July, 1780, some ships of the line, besides frigates and transports, with an army of 6,000 men, arrived at Newport. An equal number more of men were to follow, but these were blockaded at Brest by a British fleet. The first division was commanded by Count de Rochambeau, an able officer, who fortunately brought with him money to support his troops or they would have been a mere burden on the impoverished Colonial Government. In April, 1780, the French court granted the colonies a loan of 4,000,000 livres, or

\$740,740. But before the end of the year the army was in great need again, and the younger Laurens and Thomas Paine were sent over to France in January, 1781, to urge the necessity of further assistance. Franklin, however, before Laurens' arrival, had succeeded in obtaining from the French court another loan of 4,000,000 livres (\$740,740) to take up the bills already drawn upon him, and also a subsidy of 6,000,000 livres (\$1,111,111) to be appropriated principally to the purchase of supplies for the army and also to the payment of bills. The imperative manner in which Laurens demanded money was not at all pleasing to the French Minister; but Vergennes agreed to guarantee a loan in Holland for the benefit of the United States to the amount of 10,000,000 livres more or \$1,851,851. But he said that French finances would not permit the repetition of this assistance. In August Laurens arrived at Boston with supplies and \$500,000 in cash, to the great relief of the harassed American commanders. Aug. 8, also, the Count De Grasse, with twenty-four ships of the line, cast anchor in Chesapeake Bay. While he kept the British fleet at bay, the French squadron from Newport conveyed to Yorktown the heavy artillery needed for its siege. The co-operation of the two armies compelled the surrender of Cornwallis and thus virtually ended the war. In 1782, Franklin again obtained from Vergennes a new loan of 6,000,000 livres to meet the expenses of the last year of the war. In December, 1782, the French army embarked at Boston on its return to Europe. It has been said this army was of but little help to the Americans. But the men composing it had always been orderly, and had done their duty, and had paid for all their supplies in cash, which rendered them in one regard of the greatest assistance to the localities where they were stationed. At the close of the war the United States owed the French court nearly \$10,000,000. Franklin had signed contracts for the repayment of \$7,000,000, on which all back interest was to be remitted, and the principal was to be paid in installments, to begin three years after the treaty of peace was signed. The difficulty, not to say impossibility, of raising the money to pay this debt under the confederation was one of the arguments which brought about the convention for framing the constitution. When Hamilton, as the first Secretary of the Treasury under the new government, made his first report, he estimated the foreign debt, which was principally due to the French court, to amount to \$11,710,378. This debt was all duly paid. As to the conduct of the United States at the time of the French revolution, it must be remembered that the true condition of affairs was not easily perceived by us at first. It was at first a contest between the people and the King, in which the citizens of the United States naturally sided against the monarch. In 1792 President Washington received a letter from Louis XVI., announcing that the latter had signed and approved the new French constitution. This letter the President communicated to Congress, but when the question came up of replying to it with a resolution, expressing the satisfaction of the people of the United States



at the action, and its approval of the wisdom of the King, there was so much opposition thereto that the matter was dropped. When the French Republic was proclaimed in 1793, it was welcomed with much enthusiasm in this country, in spite of the fact of the bloody "massacre of September;" and celebrations were held in Boston, Philadelphia, and other cities. But when France declared war against Great Britain the matter became more serious, because of the existing treaties. Washington immediately called a Cabinet meeting, in which the whole matter was thoroughly discussed. There was a question as to whether the treaties were binding, having been made with a government that had been since overthrown; but even if they were they did not bind the United States to an alliance in an offensive war. Considerable difference of opinion existed, but the majority were in favor of a proclamation of neutrality, which was immediately made by the President. This was not sustained, however, without some difficulty. There was much popular enthusiasm in behalf of the French Republic, which was seconded by the traditional hatred to Great Britain. Then the French Minister, Genet, who came over in 1793 with the strong determination to secure some substantial aid from the United States, intrigued persistently to that end. But in spite of opposition, the administration firmly upheld the neutrality policy, as unquestionably the safest and wisest course.

#### THE GREAT AMERICAN DESERT.

HARRISBURG, Pa.  
What extent of country did "The Great American Desert," which appeared on maps and in geographical descriptions of half a century ago, cover? What has become of this desert, and how much of it still exists? M.

Answer—The district shown by Woodbridge's Modern Atlas, published about 1830, as a wide curving zone, from Minnesota westward to the Rocky Mountains and southward to the Rio Grande in Texas, was lettered as the "Great American Desert." The geographies described the region, truthfully enough for the time, thus: "This desert is traversed by numerous herds of buffaloes and wild horses, and inhabited by roving tribes of Indians." The maps of twenty years later only extended the district on the south to the north boundary of Texas, and the tide of immigration by that time setting westward into the country modified the general ignorance concerning it so rapidly that by 1867 map publishers considered themselves justified in expunging this district wholly from the map. It is now claimed, especially by those who have town lots in the extreme west of the States this side of the Rocky Mountains that they desire to "boom," that this desert existed wholly in the imagination of earlier travelers, and that the entire West is a fruitful garden just waiting for the adventurous farmer to "tickle her with a hoe, when she will laugh in his face with a harvest." The actual truth seems to lie between these two extremes. The impression of a desert given to early travelers was founded upon the scant rainfall of some of the districts of the West, and the fact that large stretches of country, lying directly east of and

encroaching upon the mountainous country, are so imperfectly watered that their only vegetation is the stunted sage-brush. We seldom realize, unless we take the map of our country, and study it with especial reference to the matter of distance, what enormous tracts of the West are still comparatively unexplored. The most reliable information that we have on this subject, perhaps, is an article of General Hazen, contributed in 1875 to the *North American Review*, and entitled, "The Great Middle Region of the United States, and Its Limited Space of Arable Land." The General, having spent over fourteen years in service on the plains, going from point to point of the regions still virtually uninhabited by white men, may be admitted to speak with authority. He says: "From the 100th meridian to the Sierra Nevada Mountains, a distance of 1 200 miles, there is not more than one acre to the hundred that has any appreciable value for agricultural purposes, or that will for the next 100 years sell for any appreciable sum." The following is the General's estimate of the area of poor land at the West. Of Dakota, he says, excluding some quite fertile strips, not one acre in a hundred is fit for agriculture. In Kansas and Nebraska, one-half of the land is good for farming; in Colorado, one acre in twenty-five; in New Mexico, one in seventy; in Arizona, one in eighty; in Utah, about one-hundredth of the total area. Of California he classes one-third of the western half of the State as good for agricultural purposes, but not more than a twentieth of the eastern part. In Montana, he estimates, that out of 92,000,000 acres of land something more than a million only are suitable for farming. He estimates that nearly half of Texas is a dry, broken, and barren country, and the same proportion of the Indian Territory. Nevada is classed with Utah, having only the merest patches of arable land. Idaho follows Montana in the general plan. In passing from Idaho into Oregon and Washington, the General found miles of country covered only with a loose, dry sand with here and there a sage-bush. These estimates of desert land are, no doubt, too large, but the General's observation, with that of other army officers, goes to show that there is a wide extent of country in our Western States which, without artificial irrigation, must remain practically a desert, and a still greater extent that can not be used for other than grazing purposes for many years to come. Major J. W. Powell, another experienced Western traveler, who has conducted several geological expeditions through the Rocky Mountains, says, concerning the prospects of farming in the great middle region of the West: "Experience teaches that it is not wise to depend upon rainfall where the amount is less than twenty inches annually." He places the border line of this twenty-inch rainfall "beginning on the southern boundary of the United States, about sixty miles west of Brownsville, on the Rio Grande del Norte, and intersecting the northern boundary about fifty miles east of Pembina." In correction of General Hazen's discouraging estimates of the agricultural future of the far West, we may take Major Powell's remark that "far too much attention has heretofore been paid

to the chemical constitution of soils. A stranger entering the arid region is apt to conclude that the soils are sterile, because of their chemical composition, but experience demonstrates the fact that all soils are suitable for agricultural purposes when properly supplied with water." And in correction of Major Powell's estimate of the rain supply of the country under discussion, it must be noted that with the advance of settlements westward the rainfall has visibly increased. There are no statistics, we confess, to show the amount of this increase, but it has so large a weight of testimony that we can not doubt its existence. Much land, too, included in the arid region has already been reclaimed by means of irrigation. But this means of farming can only be carried on with large capital, and a district requiring artificial watering must always remain, to the average settler, a desert, with whose inhospitable qualities he can not safely attempt to cope. We may say in conclusion that in the recent maps issued by the General Land Office at Washington, there is no "desert" indicated except a limited territory to the southwest of the Salt Lake, in Utah. But the fact that the provisions of the desert land act are made to apply in the States of California, Oregon, and Nevada, and the Territories of Washington, Idaho, Montana, Utah, Wyoming, Arizona, New Mexico, and Dakota show that the existence of arid land in all those States and Territories is recognized.

#### EIGHTH IOWA INFANTRY.

MEXICO, MO.  
J. C. BERRY.

Give a brief sketch of the Eighth Iowa Infantry.  
*Answer.*—The Eighth Iowa Infantry was mustered in Sept. 21, 1861, and early sent to the front. It was at the battle of Shiloh, where the greater part of the regiment was taken prisoner. Some time after the battle the remnant of the regiment left—less than 200 men—was organized with parts of the Twelfth and Forty-fourth Iowa and the Fifty-eighth Illinois, and was known as the "Union Brigade." It was in the advance on Corinth, and later at the battle of Iuka, and the second fight at Corinth. The captured men were sent on to Richmond and then paroled, and returned in the latter part of the year. The regiment was sent home for reorganization in January, 1863, and in May was back again in the field. It took part in Grant's expedition against Vicksburg, was in most of the battles in Mississippi, and bore its part in the labors and fighting of the siege. It was with Sherman in his expedition against Jackson. With the rest of the Fifteenth Corps it was sent to join in the advance on Chattanooga. Thence it was sent to New Orleans, and took part in the expedition against Spanish Fort, where it had special mention for gallant conduct.

#### ZYMOTIC DISEASES—ROYAL SURNAMES.

FLORA, III.

1. Why do measles, whooping cough, and such diseases attack a patient only once? 2. Why do not royal families have for a surname the name of their house, as the house of Bourbon in France or Hanover in England?

D. A. M.

*Answer.*—1. The non-recurring diseases are all zymotic in their character, that is, caused by a zymosis or fermentation of the blood. The name is from a Greek word, signifying a ferment, or

yeast. The element in the blood upon which the ferment acts in any disease is limited in quantity, and is usually exhausted by one attack of the disease. For this reason the person having the attack is not liable to have it again, however much he may be exposed to its contagion, though the exhausted element of the blood may be formed again in the course of years. 2. Royal surnames are so little used that they are often nearly forgotten. They were no doubt originally taken from a possession or a title, but historians usually distinguish plainly between the title by which the man is known and his surname inherited from his remote ancestors. In the drawing up of legal documents it is often necessary for the person of royal or noble lineage to use his surname; otherwise it falls altogether into disuse.

#### STORMS ON THE ATLANTIC COAST.

SHAKER VILLAGE, N. H.

Why is it that the North Atlantic States get all their storms with easterly winds, when the precursors and warnings of storms always come from the northwest?

READER.

*Answer.*—The first answer to the above question is—they don't. It is necessary to be sure that our facts are correctly stated before we attempt to generalize on them, and the above statement is not correct. All the storms of the North Atlantic States do not come with easterly winds, though the most of them do; and though the majority of the storm warnings come from the northwest, it can not be said that all do so. It is true on all parts of the earth's surface that a coming storm from one point of the compass is heralded by a wind blowing from the point directly opposite, a fact which causes no surprise after we have given it a moment's thought, for we know that a storm area is one of a low barometric pressure, and that the storm is caused and prolonged by the rushing in of air-currents from all directions to this region of low pressure. The wind, therefore, which we perceive coming from the northwest when a storm is approaching from the southeast, is part of the general movement of all the surrounding atmosphere toward the area of low pressure. The storms of the Atlantic States come from the southeast, the northeast, and the northwest. The southeast storms originate in the West Indies. They are carried by the wind against the eastern coast of North America, and penetrate inland upon the States, over a greater or less extent of territory. These storms are most prevalent during the summer months. The northeast storms are brought by polar winds. These, deflected by the earth's rotation from a direct current southward from the pole, are borne against the Atlantic coast laden with the moisture of the ocean. The well-known northwest storm of the Mississippi Valley also often reaches the Atlantic States. This is the northeast polar wind, which, striking the Rocky Mountains, is thrown back and sweeps as a northwest wind over the central prairies. This wind having passed over such an extent of land is much drier than the ocean wind. Thus it happens that this cold, dry wind, striking the moisture-laden eastern sea breezes on the sea coast, causes a sudden fall of temperature in this warmer wind, which thereupon yields up its moisture, just as the water



oozes out of the wet sponge when you squeeze it. In other words, the precursor of the storm, the cold, dry wind, came from the West. But when it had cooled the sea breeze to the point of rain, that rain sets in upon the land in the form of an easterly storm. There would seem to be nothing more capricious than the variable winds of the temperate zones, yet they are all seen to follow important general laws.

#### TWENTY-FOURTH ILLINOIS INFANTRY.

ROUND LAKE, Mich.  
Give a history of the Twenty-fourth Illinois Infantry. SUBSCRIBER.

*Answer.*—The Twenty-fourth Illinois Infantry was organized at Chicago, and mustered in July 8, 1861. It was immediately ordered to Missouri. After about a month of uncertain movements, it received orders to join the Army of the Potomac, but was detained by an accident at Cincinnati, and there received counter orders to join the troops in Kentucky that were moving against General Buckner. It was encamped first at Muldraugh's Hill, then at Elizabethtown, and Feb. 10, 1862, it started on the march southward. It was present at the surrender of Nashville, and went with General Turchin's expedition against Huntsville, captured that place and held it nearly a month, then came northward again. It took part in the movement against Bragg and had a gallant share in the battle of Perryville, where it lost heavily. At the battle of Stone River it was in the reserve, but was on the second day attacked by Wheeler's cavalry. It succeeded in repulsing the enemy, but not without considerable loss. When the army was reorganized in January the Twenty-fourth was placed in the Second Brigade, first division, of Thomas' Fourteenth Army Corps. The regiment was in the fight before Chickamauga, losing heavily in the battle of Sept. 19. It fell back with the army to Chattanooga. It was in the reserve in the memorable battles of November, and remained at Chattanooga until February, when it took part in the march upon Dalton. In May, 1864, the regiment started with Sherman at the Atlanta campaign. Its term of service expiring in July, it was returned to the rear, then sent to Chicago, where it was mustered out of service Aug. 6, 1864.

#### THE MAKING OF COARSE POTTERY.

STERLING, Col.  
Give somewhat in detail the method of the manufacture of pottery such as crocks, jugs, etc.

W. F. BYBEE.

*Answer.*—The base of the materials for all kinds of pottery is clay, and the quality of the product depends mainly upon the kind of clay used and the ingredients with which it is mixed. Bricks are made of common blue, brown or red clay, mixed with varying proportions of sand. Drain tile is made of common plastic clay, the pipes being molded by pressing the material between a solid cylindrical cone, and a hollow external cylinder. In making earthen crocks, or jars, the clay is first moistened to a plastic mass, which can be molded by the hand, and then is worked up in what is called a pug mill. A vertical shaft armed with knives placed with the planes of their blades in a spiral direction, is made to revolve within a slant cylinder having a funnel-

shaped top. There are knives also on the outside of the cylinder, and by the action of both sets the moistened clay is worked into a smooth mass, and pushed down to the bottom and through a rectangular orifice on the side of the cylinder. It is then cut into slices, the workman removing as he does so all stones and other solid substances. It is then ready for the lathe, or "potter's wheel." This is one of the most ancient machines known, having been used in Egypt probably six thousand years ago. It is simply a lathe, turned by the motion of a wheel. The clay is placed on the lathe, and its rapid revolving movement aids the worker in shaping it to the right form. Thus, the workman throws a small mass of plastic clay with a smart blow upon the head of the lathe, and then with his hands, which he keeps moist by dipping them into a bowl of water conveniently near, he presses the mass into a conical shape. Then flattening the top, he gradually works his hand into the inside of the mass, and meanwhile keeping his other hand on the outside, he works it into the form of a jar or crock, and by means of some simple tools of wood or leather, the shape is rendered perfect. It is then ready to be fired, then glazed, and fired again.

#### HISTORY OF WRITING.

FLORENNA, Ga.  
Give a history of the art of writing, telling where and when it was first known. J. C. DANIELS.

*Answer.*—Of the very first origin of the art of writing nothing is known. The Egyptians ascribed it to their god Thoth; the Greeks to Mercury or Cadmus, and the Scandinavians to Odin. Unquestionably the first step toward writing was  **rude pictorial representation of objects, the next the application of a symbolic meaning to some of these pictures, and gradually all pictures became symbolic, and for convenience were abbreviated. Later, they became conventional signs, and in time they were made to stand for the sounds of spoken language. The various systems of writing of the ancient world had probably at least three sources—the Egyptian, the Assyrian, and the Chinese systems—all of which were originally hieroglyphic, or made up of pictures. The Egyptians had four distinct styles of writing, the hieroglyphic, hieratic, enchorial, and Coptic. The hieroglyphic was probably in use before 4,000 B. C., and at first was entirely made up of pictures, but about 2,000 B. C., the hieratic form was introduced, in which the hieroglyphs were greatly simplified and developed into purely linear forms. The enchorial form of writing was in use from 700 B. C. to 200 A. D., and was a still further simplification of the earlier forms, finally developing into the alphabetic form known as the Coptic. The cuneiform writing of the Assyrian empire disputes the honors of antiquity with the Egyptian early forms. This was probably hieroglyphic in its origin, but became modified by the different nations occupying the Assyrian empire, until it assumed the form of the inscriptions as now known to archeologists. The name of this writing is from a Latin word meaning a wedge, and it is so called because all the characters used are made up of different arrangements of a single pointed figure, resembling a wedge in form. There were**

three classes of cuneiform characters used in the period of development of this form of writing; first, the Assyrian or Babylonian, which was very complicated, containing from six hundred to seven hundred symbols; the Scythian or Median, having about one hundred characters only, and the third, the Persian, which is purely alphabetic. The Chinese gives an example of a written language which was arrested in an early period of its development before the alphabetic stage has been reached. The people of China still use a written character for a word, as they did thousands of years ago. The Egyptian is the most important of those early systems, as from it was probably derived the Phœnician alphabet, which became the parent of all of the graphic systems of the modern world. The Egyptians never fully separated the hieroglyphic and phonetic symbols, but the Phœnicians adopted the latter only, and thus originated the first purely alphabetic plan of writing. The Phœnician alphabet was the parent of five principal branches of graphic forms, the most important of which is the Greek, which was the parent of the Roman alphabet, from which sprang the alphabets of all modern European nations, and those taken from them by the people who now inhabit the Western hemisphere.

#### THE LEPER VILLAGE OF HAWAII.

Give an account of the island set apart for the use of lepers among the Sandwich Islands; how the lepers are cared for, etc.

CHICAGO.

INQUIRER.

*Answer.*—The leper community is on the island of Molokai, in the Hawaiian archipelago. On this island are a number of precipitous peaks, and at the base of one of these, which is 3,000 feet high, lie the Kalaupapa plains, stretching seaward, and wholly without communication with the rest of the island, except by sea, as the wall of rock stretches on either side to the water's edge. To this plain, thus isolated by nature, all lepers are banished as soon as the first symptoms of the disease appear. This settlement was formed by order of the king in 1866, for it was found that in spite of stringent commands to secure the isolation of individual cases, these could not be carried out while the lepers were allowed to live with their families and friends. Outside of the fact that the lepers are debarred from any direct communication with non-infected persons no restriction is laid upon them. Their village, which has usually an average of about eight hundred inhabitants, has its churches, schools, and stores as the other villages have, and also government offices. The government provides all with shelter, necessary clothing, and daily rations of good food; for all luxuries they must depend upon their own resources or the generosity of friends. Medicine and the attendance of a physician are provided by the government, which also appropriates \$20,000 a year, a certain proportion of which is to be given for every instance of actual cure in the case of a leper. All officials on the island are lepers; the teachers, and the ministers, with the exception of a Roman Catholic priest, are lepers. These unfortunates employ themselves in many ways; have a band of music and a military drill. There is a large hospital, kept in admirable condition, in which the more advanced and more serious

cases are cared for. The lepers of the Sandwich Islands are not "lepers white as snow." Their disease is the Chinese leprosy, in which the flesh becomes discolored and decays.

#### CITIZENSHIP OF THE CHINESE.

Give some definite information concerning the status of the Chinese in this country. Can they vote, or hold office, or claim any of the privileges of a citizen?

OSSEO, WIS.

LE N. J.

*Answer.*—There have been much difference of opinion on this question and some important decisions of St. te courts, but the question has not been authoritatively decided as yet. The alien act of 1870 contains this clause: "The provisions of this title shall apply to aliens being free white persons and to aliens of African nativity and to persons of African descent." Judge Sawyer, of the United States Circuit Court in California, decided some years ago that this clause excluded the Chinese from the privileges of naturalization. Several circuit judges have followed this decision, but the New York Court of Common Pleas has taken an entirely different view, several Chinese having been naturalized in that State. Other States have admitted Chinamen, in a few instances to naturalization privileges, but the United States Supreme Court has not yet decided as to their right to do so. An interesting case, that may result in an authoritative statement as to the rights of the Chinese, is that of Yong Hen Chang, a young Chinaman who has been educated in this country. He is a Yale College graduate, and after taking the regular course at the Columbia College law school was refused naturalization papers. The New York Legislature passed a special act last spring authorizing the State Supreme Court to waive the question of his alienage, but the court declined to do so, and refused to admit the young man to the bar on the ground that aliens can not practice law. Chang subsequently procured his naturalization papers, and renewed his application to the court, but the matter has not yet been decided.

#### LOUISE MICHEL.

EVANSTON, ILL.

Who is Louis Michel? Give a brief account of her life.

M. B.

*Answer.*—Louise Michel, who has long been identified with the anarchists of Europe, is said to be the daughter of an aristocratic father. Her mother was a servant maid, but succeeded in giving the young girl, who manifested much quickness of intellect, an unusual education for one in her rank of life. Louise attempted the work of school teaching, but failing to win success in this, she sought notoriety in a connection with the socialists and the noisy politicians of Paris. She was one of the insurgents who fought under the red flag of the Commune of 1871, and for her share in the uprising was banished to New Caledonia. After a brief exile, she was pardoned and allowed to return, but immediately became mixed again in socialistic agitation. She was tried for complicity in a plot to incite a rising among the soldiers, and was found guilty and imprisoned for several years. On her release she immediately rejoined her old companions. She took a prominent part in the labor riots of 1882, and headed the riots in



Paris in 1883. In fact, she has ever since been active, except when imprisonment has kept her from the opportunity in spreading "the gospel of anarchy." Her stand is that of the Nihilists, demanding the destruction of all creeds and all social order, that on their ruins may be built a society that shall suit her ideas. In this society there is, of course, to be no law and no religion, but like most reformers of her kind, who pursue agitation simply to secure their own prominence—she does not compromise herself by advocating any intelligent system of socialistic doctrine.

## WATCHES OF THE NIGHT.

How many hours constitutes a "watch" under the Jewish dispensation?  
OSKALOOSA, IOWA.  
HELEN E. BAILEY.

*Answer.*—The Jews, like the Greeks and Romans, says the Rev. Dr. William Smith in his Bible Dictionary, divided the night into watches instead of hours, each watch representing the period for which sentinels or pickets remained on duty. The proper Jewish reckoning recognized only three such watches, entitled the first or "beginning of the watches" (Lam. ii. 19); the middle watch (Judges vii. 19), and the morning watch (Exodus xiv. 24; II. Samuel xi. 11). These would last, respectively, from sunset to 10 o'clock p. m.; from 10 p. m. to 2 a. m., and from 2 a. m. to sunrise. After the establishment of the Roman supremacy the number of watches was increased to four, which were described either according to their numerical order, as in the case of the "fourth watch" (Matthew xiv. 25), or by the terms "even," "midnight," "cockcrow," and "morning" (Mark xiii. 35). These terminated, respectively, at 9 p. m., midnight 3 a. m., and 6 a. m.

## SLAVERY IN CUBA.

Give a description of slavery in Cuba and describe its present form there.  
GLENCOE, NEB.  
I. H. M.

*Answer.*—Slavery had existed in Cuba from the latter part of the sixteenth century, when the cultivation of the sugar cane was first begun on the islands. As the sentiment of the civilized world became more enlightened on this subject, in the early part of the present century efforts were made by the Spanish government to suppress the slave trade carried on with the Cubans, but with little success. By a treaty made in 1817 Spain agreed to abolish the trade, but so little was actually done to interfere with the traffic that between 1817 and 1842 it was estimated, from information furnished by the British consulates on the island, that no less than 335,000 slaves were imported into Cuba. As late as 1860 40,000 were brought in in a single year. In 1865 the Spanish government declared the traffic piracy, and more strenuous measures were taken to overthrow it. In June, 1870, a law was passed by the Spanish Cortes declaring free all slaves born after its passage, and all who at that time were 60 years of age; it also provided for the gradual emancipation of all others. There was difficulty in putting the law into effect, owing to repeated insurrections upon the island. In 1878, the Cortes passed a bill providing for the emancipation of all the Cuban slaves during the years 1886, 1887 and 1888. A large number have been set free under this law, and its operation will probably liberate all during the current year,

though there is of course an effort in many instances to prolong the period of servitude under one plea or another. Another form of slavery has flourished in Cuba in the coolie trade, or the importation of laborers from China. These were first brought in under contract from Amoy in 1847, by the Royal Society of Public Works, and were sold for the cost of their transportation. Afterward, the business became a regular trade by companies and private persons, who raised the price of the coolies. Up to 1873, 50,000 had been imported, and the record of the courts of Cuba showed that they had been treated with great cruelty. The mortality among them was very great. No effective suppression of this traffic was made, however, until the adoption of a treaty between the Spanish and Chinese governments in 1879, positively forbidding the immigration of Chinamen by contract, and pledging both governments to the prosecution of any person or vessel violating the law.

## FRANCES ANNE KEMBLE.

SYCAMORE, ILL.  
Give a brief biography of Fanny Kemble.  
A READER.

*Answer.*—Frances Anne Kemble, the popular English actress and writer, was born in London in 1811. She was the daughter of Charles Kemble, a successful actor. The whole Kemble family for several generations were noted for their talents not only on the stage, but in literature. Fanny performed in both tragedy and comedy with brilliant success. At the age of 17 she wrote a play, "Francis the First," which was put on the stage, and received with much approval. In 1832 she accompanied her father to the United States, and met with an enthusiastic reception in the chief cities. In 1834 she was married to Mr. Pierce Butler in Philadelphia, and at the same time she retired from the stage. Mr. Butler was of a Southern family, and for two years, 1838-39, they resided on his plantation in Georgia. But the union was not a happy one, because of the great incompatibility of the tastes and opinions of the pair, and about 1841 a separation took place, and Mrs. Butler took up her residence in Lenox, Mass. Just after her marriage Mrs. Butler's prose work, "A Journal of a Residence in America," was published in London. This was followed in 1837 by a drama entitled "The Star of Seville," which was acted with success, and in 1844 she published a collection of her poems. In 1846 she visited Europe and traveled on the continent, and in 1847 published an account of her tour under the title, "A Year of Consolation." Soon after this she secured a divorce from her husband, after which she resumed the name of Kemble. In 1848 she commenced Shakespearean readings in Boston, and these met with such warm approval that she continued them for several years in the principal cities of the United States. In 1851 she returned to England, and for a brief time to the stage. She came back to the United States in 1856, but in February, 1860, returned again to England, where she remained six years. While there she published "Residence on a Georgia Plantation," in which she gives from personal observation her impressions of slavery. She took up her residence again in Lenox, Mass.

in 1866, went to Europe again in 1869, and in 1873 returned and took up her residence near Philadelphia, where she has since lived. She has since published two books, "Records of a Girlhood" (1878), and "Records of Later Life" (1883).

#### FOREIGN AND DOMESTIC COMMERCE.

SPRINGFIELD, ILL.

1. Does the internal commerce of the United States and Territories exceed the foreign and domestic commerce of Great Britain, and by what amount? 2. How does the combined British foreign, maritime and domestic railway tonnage compare with the tonnage of the railways of the United States and Territories? 3. Assuming that the rate of wages paid in England is greater than in any European country, what is the average per day for all employments? State also average for United States. 4. What countries of England's dependencies levy protective duties?

GEORGE B. STADDEN.

*Answer.*—1. Yes. Exact statistics are not available. But the people of the United States buy and wear more woolen goods than all the other people in the world put together. The American manufacture and consumption of iron is also greater than that of any foreign country. 2. The total marine tonnage of the United States for 1887 was 4,105,845; this includes river, lake, and ocean vessels of all sorts. Our sea-going tonnage was 2,684,067. That of England was 6,127,375. The number of miles of railroads in actual operation in the United States for 1887 was 125,146. The mileage in operation in Great Britain in 1886 was 19,932. 3. This question is too vague for definite answer. Cotton spinning is among the least remunerative forms of labor. English rates (standard), \$1.17; American, \$1.77. Iron-workers are among the best paid laborers. English rail-straighteners get \$1.35 per day; American, \$10. English rail-mill heaters get \$1.60, American \$8.50 per day. As an average, it is quite safe to say that the American laborer earns twice as much as the English. 4. All her Canadian and all but one of her Australian provinces.

#### GENERAL DURBIN WARD.

FORT GAY, W. Va.

Give a biography of General Durbin Ward.

H. A. HAMMOND.

*Answer.*—Durbin Ward was born in Augusta, Ky., Feb. 11, 1819. He was brought up on a farm and having little opportunity for instruction, he acquired by his own unaided study sufficient knowledge to admit him into Miami University, Ohio, where he maintained himself for two years. He studied law under Thomas Corwin, and was a partner of that eminent lawyer for three years, until elected a prosecuting attorney of his county. After filling this office six years, Ward served a term in the Legislature, but after this until 1855 took no active part in politics. He had formerly belonged to the Whig party and upon its dissolution connected himself with the Democrats. In 1856 he was defeated as candidate for Congress, and in 1868 for Attorney General of the State. In 1860 he was a delegate to the Charleston and Baltimore Conventions, warmly supporting Stephen A. Douglas. When the war broke out he enlisted as a private and served in West Virginia under General McClellan, but afterward, being commissioned Major of the Seventeenth Ohio Infantry, served for the rest of the war under General Thomas. At Chickamauga he was shot through the body, his

left arm being disabled for life. He was then mustered out without his knowledge, but hearing of it went to Washington, got the order revoked, and returned to the field, carrying his arm in a sling during the whole of the Atlanta campaign, and was brevetted Brigadier General. In November, 1866, he was made District Attorney for the Southern District of Ohio, but was removed about three years later by President Grant. With the exception of a brief service in the State Senate in 1870 he held no other office up to the time of his death at Lebanon, Ohio, May 22, 1886.

#### HOW WAX FLOWERS ARE MADE.

VIRGEN, ILL.

Give some account of how wax flowers are made.

M. MERTON.

*Answer.*—The art of making wax flowers should be learned from an expert, since many detailed directions are needed at first, and only practice can secure perfect results. It was formerly necessary for each person to prepare his own wax, which rendered the process very tedious. This was done by stirring into the melted wax some fir balsam or some other substance of tenacious quality, and then pouring it in thin sheets, which were rendered perfectly smooth by pressure. But now prepared wax can be procured in sheets, which is much better for the purpose of flower-making than any prepared by comparatively inexperienced hands. The wax-flower maker should have on hand before beginning work a good set of hardwood tools, consisting of cutters, punchers, spatulas of different sizes and shapes; also, a number of pins of steel with glass or ivory heads; also, wax of different kinds in sheets, powdered colors, and wire of assorted sizes. Besides these, cutters of tin are required for some flowers, and leaf molds of brass or plaster. Sheets of white paper are needed, also, to lay the parts of the flower upon as fast as made, as the great beauty of wax-work is its perfect cleanliness. A spirit-lamp is also needed, and a small tin vessel in which to soften or melt the wax. The flower-maker should have sufficient knowledge of botany to know the component parts of flowers at least. Stamens and pistils can be obtained ready-made from the dealers in material, or they may be made by taking coarse cotton or thread, stiffening it with starch or gum, and, when perfectly dry, dipping it in melted wax. Tiny bits of wax, rolled between the fingers and pressed upon the ends of the filaments, serve as anthers, the stipules for the pistils are made in the same way. Gilt and tin molds and cutters can be procured for a large number of leaves, or, if some curious or new leaf is to be made, it may be copied directly from nature, by warming a piece of green wax, on which the natural leaf, lightly touched with oil, is laid—the back of the leaf touching the wax—and firmly pressed upon it, so that every rib and vein of the leaf is reproduced in the wax surface. In coloring the flowers, small camel's hair brushes are used for fine lines, and bristle brushes for blotches or broad surfaces. Where the petals or leaves are glossy, the color may be used moist and then dried and varnished, but when a soft, velvety surface is desired, the breath must be blown upon it, and powdered color



applied with delicate touch. The best patterns for the petals and sepals, the parts of the corolla and the calyx, are the parts of the natural flower itself. These, when cut, are pressed into place. The artist's eye, as well as the skillful hand, is needed to make wax flowers well. The parts are held in place by means of fine wires. Wax fruit is made by casting melted wax in molds of the form of the fruit, either mixing the coloring matter with the wax in its liquid state, or applying it with a brush on the fruit when molded.

#### THE CHAIR OF IDRIS.

GENESEO, Ill.

Tennyson, in his poem of "Ænïd" has the following:

"He felt were she the prize of bodily force,  
Himself beyond the rest pushing could move  
The chair of Idris."

What and where is the Chair of Idris? J. A. S.

*Answer.*—Cader Idris, or the Chair of Idris is the name given to mountain in North Wales, at the top of which the rock is hollowed out by nature in the form of a gigantic couch. The local legends do not give the origin of the name, but the superstition is that whoever spends a night on this couch will on the following morning be dead, or endowed with the loftiest poetic inspiration, or raving in madness. A fine poem on this idea by Mrs. Hemans. The Greeks hold a similar fæcy concerning the effect of a night spent on the summit of Mount Olympus. Idris is variously represented in Welsh traditions as a prince, a magician, and an astronomer, the only thing in which all form of the story agree being his immense stature. Besides the fact that this chair of his indicates an occupant of very generous proportions, in the Lake of the Three Pebbles, at the foot of the mountain are three huge blocks of stone which he is said to have shaken out of one of his boots.

#### HOW THE GROUND THAWS.

DANVILLE, Ill.

We often hear the expression, "The ground is thawing very fast from below," while it is thawing but little on the surface. Is it true that the ground thaws from beneath in the spring? W. D. F.

*Answer.*—During the approach and continuance of winter the earth throws off by radiation, each night, more heat than it absorbs in the day-time. While this goes on the temperature of the surface of the earth must continue to fall, and the cold of the atmosphere must penetrate deeper and deeper daily into the ground. As spring approaches the conditions change and each night less heat is radiated than is absorbed in the day. The average temperature of the earth is therefore steadily rising instead of falling, and opportunity is given to the latent heat of the earth to manifest its influence. For, next to the primal source of heat—the sun—a very important source is found in the heat of the globe itself. While the surface is still frozen, therefore, and has not yet absorbed a sufficient surplus of heat to overcome the effect of the nightly loss by radiation, the ground may yet be thawing rapidly and perceptibly from below, through the influence of the earth's latent heat.

#### NINTH OHIO BATTERY.

CLEVELAND, Ohio.

Give a sketch of the Ninth Ohio Battery. C. F.

*Answer.*—The Ninth Ohio Independent Battery was organized at Camp Wood, Ohio, Oct. 11, 1861.

It was sent to Kentucky, and its first battle was Mill Springs. During the spring following it had some very severe marches and several skirmishes. It assisted in the capture of Cumberland Gap June 19. In the following autumn the battery received a complete outfit of guns, and a full complement of officers was assigned it. It was attached to the Army of the Cumberland in January, 1863. It was stationed at Nashville, Franklin, and other points during the year, and had several hot skirmishes with the rebels. In February, 1864, three-fourths of the men enlisted. In May the battery started with Sherman's forces on the Atlanta campaign, and fought in nearly all the engagements preceding the capture of the city. It then went through with this army to the sea. It returned home by way of Washington, and was mustered out of the service at Cleveland, Ohio, July 25, 1865.

#### TARIFF HISTORY.

COZARD, Neb.

1. How long did the Walker tariff of 1846 last? 2. What was its effect. 3. Name the years that the United States has had free trade, and what was the effect each time? 4. Tell us about the European countries that have a protective tariff.

A. C. ALLEN.

*Answer.*—1. From 1846 to 1857. 2. It increased the public debt, and increased the revenues from tariff duties by encouraging imports from Europe. The customs duties under the operation of the tariff of 1842-6, which was protective—were \$97,109,411. For the first four years of the Walker tariff, which was not protective, they were \$123,920,411. But though the income from tariff duties was increased by the low tariff, the National finances became embarrassed. The protective tariff of 1842-6, with less income, resulted in a net surplus of \$16,888,967 for the four years. The Walker tariff, with a larger income from duties on imports left a deficit of income over expenditure of \$52,108,144, which was just so much increase of the public debt. This phenomenon was the result of the impoverished condition of the people, owing to the closing of American mills and factories by European imports. Robert J. Walker, born 1807, died, 1869; United States Senator from Mississippi, 1834-45; Secretary of Treasury 1846-9. 3. The United States has never had absolute free trade; its low tariff periods were 1846-57 and 1833-42, in both of which there was commercial depression. 4. England approaches nearest to the condition of actual free trade, though it taxes tea and coffee—prime necessities of life. Spain and Portugal are low tariff countries. Italy, Germany, France, Prussia have highly protective tariffs and seem bent on attaining to a system of absolute protection.

#### LITTLE JOHN OF CHICKAMAUGA.

WHITLEY, Ind.

There was a song about the close of the war called "Little John of Chickamauga." To whom did it refer, and was the circumstance a true one? EX-SOLDIER.

*Answer.*—There is said to have been a boy volunteer in one of the Ohio regiments in the Army of the Cumberland who had enlisted at the age of but 12 years. He was generally known as "Clem," which seems to have been his real name, but some of the soldiers gave him the name of "Little John." He was a great pet of the soldiers,

and, with a child's recklessness, was always eager to be in the heart of danger. The story is that in the battle of Chickamauga he was in the very thickest of the fight, and had had three bullets through his hat, when he got separated from his company. A mounted Confederate officer saw him running across an open space of ground with a musket in his hand, and shouted, "Stop! you little Yankee devil!" The boy halted and brought his gun to order and the Colonel rode toward him to make him prisoner. Little John then, with a quick movement, brought up his gun and fired, killing the officer instantly. For this exploit the boy was made a sergeant, put on duty at headquarters, and received a medal of honor. He grew to manhood, and some years after the close of the war obtained a position in one of the departments at Washington.

#### THE PERIODICAL CICADA.

**GIVE** some account of the seventeen-year locust, its nature and habits. Does it appear but once in seventeen years? And is there any foundation for the belief that the "W" on its wings foretells war?

CHICAGO.

**Answer.**—The insect known as the seventeen-year locust is not a member of the locust but of the cicada family, and its correct name is the harvest fly. This insect is remarkable chiefly for the length of time necessary for it to pass from the larva to the pupa state—seventeen years in one species, thirteen in another. The periodical cicada appears in some parts of the country nearly every year, and perhaps a few of the insects may appear anywhere, during any summer, but the lineal descendants of each swarm appear only every seven-teen or thirteen years. The popular name of locust was doubtless derived from this appearance in large swarms after long intervals of time, like the locusts of the East. In its perfect state this harvest fly is of a black color, the edge and veins of its two pair of wings being orange color. Near the tips of the outer wings is a zig-zag line in the form of the letter W, which the superstitious imagine indicates approaching war; as this is seen on every insect, and as some of the insects appear in some part of the country every year, the prophecy is considerably weakened by its frequent repetition. The eggs of this cicada are deposited in the twigs of trees, the female piercing a hole to receive them. Here they hatch in about six weeks, and the young larvae fall to the ground, where they instantly bury themselves by means of their fore feet. They live in the ground during their long period of growth, seldom burrowing more than three to four feet below the surface. They follow the roots of plants in their subterranean movements, and live upon the juices of these, thus sometimes proving quite injurious to vegetation. As the time of their transformation approaches they gradually make their way to the surface of the earth through long circuitous passages. They burst through the crust during the warm nights of the spring and early summer and ascend trees; and in a few hours the pupa skin in which they are enveloped breaks, and the perfect insect comes forth. The ground is often riddled like a honeycomb by these insects, they appear in such numbers, and were their lives prolonged they would undoubtedly

do great injury to vegetation, but fortunately their existence is but ephemeral. After emergence from the pupa skin, the males perform the act of reproduction, and soon die. They have scarcely a trace of digestive apparatus, and it is supposed that they do not eat anything in their brief lives. The reproductive organs of both male and female are fully developed on their birth into the winged form. The males carry over 500 sperm cells, and each female lays from 400 to 500 eggs. The female has a complete digestive system—though she is smaller in size than the male—and she feeds upon young foliage, but fortunately she lives but a few weeks. She bores into small twigs, laying about sixteen eggs in a hole, and continues her work until all her eggs are deposited; by this time she is so exhausted that she falls from the tree and soon dies. It is fortunate, considering the great fecundity of this insect, that ants and other flies feed upon its eggs, and that blackbirds, woodpeckers, frogs, toads, and hogs devour the larvae when they fall to the ground upon being hatched, or are turned up in a half-developed state by the plow; also that it only appears at long intervals. The twigs punctured to receive eggs usually die and fall from the tree, and in this way the cicada does a great deal of harm to fruit trees, though forest trees bear it very well. The periodical nature of this insect has been known for 200 years, a description of a seventeen-year locust brood being on record as far back as 1633. But it remained for the present entomologist of the United States, Professor C. V. Riley, to discover, by comparison of the dates of their appearance, that one of the cicada species had a period of transformation five years shorter than the other. Professor Riley published in 1885 a chronological statement of all the periodical cicada broods that had been recorded up to that year, giving dates of their future appearance. He says that in general terms "the seventeen-year broods may be said to belong to the Northern, and the thirteen-year broods to the Southern States, the dividing line being about latitude 38 degrees; though in some places the seventeen-year broods extend below this line, while in Illinois the thirteen-year broods run up considerably beyond it."

#### THE BRITISH SOLDIER IN CHINA—THE KOTOW.

CHICAGO.

Some years ago I read a short poem entitled "The British Soldier in China." A few weeks ago I recognized a quotation from it in an article in THE INTER OCEAN:

"Vain mightiest fleets of iron framed," etc.

I have always wanted to know the circumstances which gave rise to that poem. Please give them in Our Curiosity Shop with the author.

R. E. HOWELL.

**Answer.**—The poem alluded to is by Sir Francis Hastings Doyle. The circumstance giving rise to it was about as follows: During the war between Great Britain and China, in 1857-58, one day a young fellow named Moyse, a private of the "Kentish Buffs," having lagged behind on the march with some Sikh soldiers, was taken prisoner by the enemy. The fellows had been drinking, which was the cause of their detention, as they were hanging around the grog-train in the hope of getting more liquor. But this rough, drinking young Englishman had the soul of a hero. The



Chinese officials demanded the kotow of the captives; that is, the ceremony of kneeling and knocking the head upon the ground. This the Indian soldiers willingly did, and thus saved their lives, but the Englishman, regarding the act as a degradation, positively refused, in spite of all threats, and was finally beaten to death and his body was thrown to the jackals. The circumstance acquired peculiar interest from the fact that the questions of receiving the English and American embassies at that time hinged upon the question whether the envoys could be allowed to approach the sovereign without performing the kotow. The Chinese regard this obeisance as due to all the gods, to the Emperor, who is the son of heaven and the messenger of the gods, and in a less degree to the officials who represent the Emperor. The extreme obeisance, indeed, required by the Emperor and heaven, is a kneeling and knocking the head thrice, then standing upright and again kneeling, this to be performed three times. This obeisance had been performed by the Dutch ambassadors and an envoy from Russia, and the English and American ambassadors were the first who had dared to refuse to accede to the ceremony. The Chinese ministers discussed the matter quite amiably with these gentlemen. They explained how during their whole national history, the Chinese people had accepted this ceremony as the inseparable prerogative of the Son of Heaven. They said: "If we do not kneel before the Emperor, we do not show him any respect; it is that or nothing, as the reverence which we pay to our gods." This insisting upon the religious nature of the act only made more strenuous the determination of the ambassadors to concede no part of the ceremony; so though the Chinese minister at last consented to waive the kotow, or knocking, and allow the envoy simply to bend one knee, even so much of deference could not be granted. The treaties of 1858, therefore, were conducted through Prince Kung, and no audience with the Emperor was permitted. In 1861, his Majesty, Hienfung, died, and the empire was left to his only son, a child six years old. The administration during his ministry was conducted by Prince Kung and the Empresses, the mother and grandmother of the King. The critical question of the kotow did not come up again until the Emperor attained his majority in 1873. In 1859, the ministers had expressed a willingness to accept a simple bending of the knee instead of a prostration from the ambassadors. But since that time the Chinese court itself had put the strongest argument possible in the hands of foreign ministers by sending the Burlingame mission to their courts, and the right of independent nations could not be waived or compromised by any sign of inferiority. There was a long, amicable conference on the subject, and the Chinese officials took a month to discuss the point of etiquette among themselves. The question was finally settled by the agreement in June, 1873, to yield the ceremony of obeisance to the Emperor entirely in the case of foreign ministers, and June 29 the first imperial audience was granted to these repre-

sentatives at the Emperor's palace in Pekin. As the poem to which our query refers is a fine one, and comparatively little known, we quote it as follows:

"Last night, among his fellow roughs,  
He jested, quaffed, and swore,  
A drunken private of the Buffs,  
Who never looked before;  
To-day, beneath the foeman's frown,  
He stands in Elgin's place,  
Ambassador from Britain's crown,  
And type of all her race.

Poor, reckless, rude, low-born, untaught,  
Bewildered and alone,  
A heart with English instinct fraught,  
He yet can call his own.  
Ay! tear his body limb from limb!  
Bring cord, or ax, or flame!  
He only knows that not through him  
Shall England come to shame.

Fair Kentish hop-fields round him seemed  
Like dreams to come and go;  
Bright leagues of cherry blossom gleamed,  
One sheet of living snow;  
The smoke above his father's door  
In grey soft eddyings hung—  
Must he then watch it rise no more,  
Doomed by himself, so young?

Yes! honor calls; with strength like steel  
He put the vision by.  
Let dusky Indians whine and kneel  
An English lad must die.  
And thus with eyes that would not shrink,  
With knee to man unbent,  
Unflinching on its dreadful brink  
To his red grave he went.

Vain mightiest fleets of iron framed,  
Vain those all-shattering guns,  
Unless proud England keep untamed  
The strong heart of her sons!  
So let his name through Europe ring!  
A man of mean estate,  
Who died as firm as Sparta's King,  
Because his soul was great."

#### THE RABBIT'S FOOT.

SHARBY, Miss.  
Give information on carrying the foot of a rabbit in one's pocket. How long has the practice existed, and for what purpose are they carried?  
J. A. LEWIS.

Answer.—Why the hare or rabbit, which in Europe is simply a type of helplessness and cowardice in the animal kingdom, should be, in the folklore of Africa, the hero of a thousand adventures, the leader of the beasts, by dint of shrewdness, intelligence, and courage, is hard to conjecture. The legends of "B'r'er Rabbit" among the negroes, his clever devices in outwitting his natural enemies—the dog, fox, and wolf—and thwarting every scheme designed for his own punishment, are almost without number. From these legends of the preternatural sagacity of the living rabbit came the idea that the dead rabbit had certain magic powers. The negroes believe that to carry a rabbit's foot in the pocket is not only a talisman for good luck, but is a specific for cer-

tain diseases. The left hind foot of the rabbit is believed to have the most efficacy, and if it is taken from a rabbit that runs in a graveyard its preternatural properties are quite irresistible. It is needless to say that all this is the rankest superstition, which can only flourish in the midst of dense, unthinking ignorance.

#### TITLE TO MORMON PROPERTY.

MIDDLEBURGH, N. Y.  
1. Who now holds the title to the Mormon Church property in Utah? 2. Give an account of the operations of the Edmunds law against polygamy?

HAYSEED.

*Answer.*—1. The property of the Mormon Church was until the past year held partly in the name of the church and partly in that of the Perpetual Emigrating Fund Company. But by the provisions of what is known as the Edmunds-Tucker law, these two corporations were abolished, and all their property confiscated to the United States, the proceeds to be invested for the benefit of the common schools of the Territory. The Attorney General of the United States in August, 1887, instituted suits against the above-named corporations in the Territorial Supreme Court, asking for a decree of dissolution and the appointment of receivers. This bill was granted in November, and a receiver appointed, who proceeded to take possession of such property as could be found. The question of the constitutionality of the act, however, may have to be decided before it can be fully carried out. 2. Under the recent and previous laws there were, in 1887, 160 convictions for polygamy and unlawful cohabitation in the Territory. As to fifteen of these sentence was suspended upon their promising to obey the law in the future.

#### GILDEROY.

BERRY, Ill.  
Give the origin of the expression, "Higher than Gilderoy's kite." A. G. C.

*Answer.*—Gilderoy was the Robin Hood of Scottish minstrelsy. The name Gilderoy, or more properly Gaileroy, means in the Gaelic red-haired lad. The true name of the character is said to have been Patrick, of the proscribed clan of Gregor. This noted freebooter infested the highlands of Perthshire, Scotland, in the early part of the seventeenth century, with an attendant band of ruffians. They committed most atrocious acts of cruelty, and lived by plundering the country, but like many other lawless characters they contrived to retain a considerable degree of popular favor, and even popular protection, by claiming to plunder only the rich, and by scattering a certain portion of their ill-gotten gains among the poor. At length, by the vigilance and daring of the Stewarts of Athol, several of the ruffians were captured, and were taken to Edinburgh, tried, convicted, and hanged in February, 1638. Gilderoy in revenge burned the houses of some of the Stewarts. A proclamation was, therefore, issued by the authorities, offering £1,000 for the apprehension of this bandit. The inhabitants then rose en masse, pursued him from place to place, and at last captured him and five others, took them to Edinburgh, where they were speedily tried and sentenced, and in April, 1638, they expiated their crimes on the gallows. Gilderoy was hanged much higher than the others, as

having been a leader in the evil deeds of the gang. So the phrase arose, to be hoisted, or knocked, "higher than Gilderoy." The word kite seems to have been added with the idea of intensifying the phrase, but has no real meaning. It is a modern interpolation undoubtedly, as it must have been added by those ignorant of the history of the expression. The ballad of "Gilderoy" served for many years to keep the story of the freebooter in popular remembrance. This ballad is said to have been written by a young woman of good birth and fine talents, who was so infatuated with the young robber that she ran away from her home to live with him some time before he met his fate. There is a copy of this ballad extant in a book that bears the date of 1650. It shows well the fascination which the life of the bandit has to certain minds, and the views then popularly held on obedience to the laws. We quote a few stanzas that show the character of the ballad:

My Gilderoy beath far and near,

Was feared in every town,

And bauldly bare away the gear,

Of many a lowland loon.

Nane eir durst meet him man to man,

He was sae brave a boy;

At length by numbers he was taen

My winsome Gilderoy!

Woe worth the loon that made the laws

To hang a man for gear

To reive of life for ox or ass,

For sheep, or horse, or mare!

Had not their laws been made sae strick

I ne'er had lost my joy,

Wi' sorrow ne'er had wat my cheek

For my dear Gilderoy.

Giff Gilderoy had done amisse

He mought have banisht been.

Ah! what sair cruelty is this

To hang sike handsome men!

To hang the flower o' Scottish land

Sae sweet and fair a boy!

Nae lady had sae white a hand

As thee, my Gilderoy!

Of Gilderoy sae fraid they were

They bound him mickle strong;

Tull Edenburrow, they led him there

And on a gallows hung.

They hung him high aboon the rest,

He was sae trim a boy.

Thair dyed the youth whom I lued best,

My handsome Gilderoy!

#### THE INFLATION BILL OF 1874.

PALMYRA, WIS.  
Give the text of General Grant's message vetoing the "Inflation Bill" of 1874 and the circumstances attending the same. C. F. SHEEMAN

*Answer.*—A reference to a history of "Our Financial Legislation" in Our Curiosity Shop book for 1887 will give the reader an understanding of the circumstances leading up to the financial situation when Congress met in December, 1873. The state of things was peculiar: There were in the vaults of the Treasury \$50,000,000 of gold coin which could lawfully have been paid out in exchange for public obligations without embarrassing the operations of the Government; but as



specie then stood at a premium of 12 per cent over paper and could not be used to pay private debts without sacrificing this premium, it was not wanted. The panic of September, 1873, which was simply a reaction from a period of extravagant speculation, had affected all lines of business. The first effect of a panic is to make men grasp all the money within their reach, and hold it tightly, although a week before they were eager to risk it on the most uncertain enterprises. The banks had issued money to the fullest extent of their limit, and there seemed to be no way of providing the medium needed for the ordinary operations of business, save by drawing upon the \$44,000,000 reserve of paper money in the Treasury. In response to the urgent demand for it, Secretary Boutwell paid out \$25,000,000 in exchange for public securities, thus giving to the embarrassed banks temporary relief. Congress was looked to to complete this relief by authorizing an additional issue of greenbacks. A currency bill was introduced in the Senate and passed, and then accepted by the House. This bill fixed the maximum limit of United States notes at \$400,000,000, and authorized \$46,000,000 of additional issue on the part of the banks, requiring each to retain "as a part of its lawful reserve one-fourth part of the coin received by it as interest on the United States bonds deposited with the Treasurer of the United States to secure its circulation and deposits," but restricted the amount of reserve to be deposited in the banks used as redemption agencies. It was impossible to say whether this scheme would assist contraction or inflation, but the President vetoed it as an inflation measure. We quote a part of the veto message to show the grounds of his action:

"Practically it is a question whether the measure under discussion would give an additional dollar to the irredeemable paper currency of the country or not, and whether, by requiring three-fourths of the reserve to be returned by the banks and prohibiting interest to be received on the balance, it might not prove a contraction. But the fact can not be concealed that theoretically the bill increases the paper circulation \$100,000,000, less only the amount of reserves restrained from circulation by the provision of the second section. The measure has been supported on the theory that it would give increased circulation. It is a fair inference, therefore, that if in practice the measure should fail to create the abundance of circulation expected of it, the friends of the measure—particularly those out of Congress—would clamor for such inflation as would give the expected relief. This theory, in my belief, is a departure from true principles of finance, National interest, National obligations to creditors, Congressional promises, party pledges on the part of both political parties, and of personal views and promises made by me in every annual message sent to Congress, and in each inaugural address." After quoting passages to verify this last assertion, the President said: "I am not a believer in any artificial method of making paper money equal to coin, when the coin is not owned or held ready to redeem the promises to pay, for paper money is nothing more than prom-

ises to pay, and is valuable exactly in proportion to the amount of coin that it can be converted into. While coin is not used as a circulating medium, or the currency of the country is not convertible into it at par, it becomes an article of commerce as much as any other product. The surplus will seek a foreign market, as will any other surplus. The balance of trade has nothing to do with the question. Duties on exports being required in coin creates a limited demand for gold. About enough to satisfy that demand remains in the country. To increase this supply I see no way open but by the Government hoarding, through the means above given, and possibly by requiring the National banks to aid. It is claimed by the advocates of the measure herewith returned that there is an unequal distribution of the banking capital of the country. I was disposed to give great weight to this view of the question at first, but on reflection it will be remembered that there still remains \$4,000,000 of authorized bank-note circulation, assigned to States having less than their quota, not yet taken. In addition to this the States having less than their quota of bank circulation have the option of \$25,000,000 more to be taken from those States having more than their proportion. When this is all taken up, or when specie payments are fully restored, or are in rapid process of restoration, will be the time to consider the question of more currency."

CECIL.

CORUNNA, Ind.

Give an account of Lord Burleigh, or Cecil. C. C. C.

*Answer.*—William Cecil was a native of Bourne, Lincolnshire, England, where he was born Sept. 15, 1520. He was educated at the common schools of Grantham and Stamford, and at St. John's College, Cambridge. Then he devoted himself to the study of the law. In these pursuits he was noted for his diligence and aptitude in learning. His attainments were so marked that he soon commended himself to King Henry VIII., who rewarded him with an office of profit in the common pleas. He married a daughter of Sir Anthony Cook, and thereby secured the friendship of the protector Somerset, who in 1547 gave him a high office, and in 1548 he was made Secretary of State. When Somerset fell into disgrace, Cecil shared it, and even imprisonment for three months, but in two years he was again recognized, when he was made Secretary of State by the Duke of Northumberland, Somerset's leading enemy. He made an excellent record in the State Secretaryship. When Queen Mary ascended the throne Cecil, being a Protestant, resigned his office, but while he could not officially hold place under a Catholic party, he privately maintained friendly relations with the Catholic interest. This laid him open to the charge of being a "trimmer." When Elizabeth was looked to as the rising star, he entered into correspondence with her, and when in 1558 she became sovereign, he was made Secretary of State. From that time forward his record is really the history of the government. He was Queen Elizabeth's leading adviser for years. His home and foreign policy were such as raised Great Britain in respect abroad and strength with her

own people. He was created Lord Burleigh in 1571, and the Order of the Garter was conferred on him in the following year. He was made Lord High Treasurer in 1572, and held that office until his death Aug. 15, 1598.

#### PETRIFIED BODIES.

For years I have, when opportunity occurred, propounded the question as to whether a genuine case of the petrification of human flesh had ever been known, to physicians, scientists, and men of knowledge generally, but have never received a satisfactory answer. Instances of petrified bodies are continually recorded in the newspapers. Is the petrification of flesh a scientific fact or a popular delusion?

CHICAGO.

QUINCY, Ind.

Is it possible for a human body to turn to stone? Can flesh be petrified? Science says not.

D. H. McDONALD.

*Answer.*—The question is not an undecided one. The petrification of human flesh is a scientific impossibility, and the reason of this is readily understood. Petrification is simply the substitution of the organic substance by the inorganic, atom by atom. As a molecule of wood, or of bone, decays a molecule of the stone takes its place. This can only occur when the air or earth or water surrounding the organic substance holds in solution some readily precipitated mineral. In the case of wood, or woody substance, or of bone, while decomposition goes on there yet remains a framework, whose interstices are gradually filled by the mineral substance, but in the case of flesh no such framework exists. The very rapid decay of flesh, also, makes it impossible for the very slow process of petrification to have any effect upon it. No one who pretends to any acquaintance whatever with science can excuse his ignorance of this very simple fact. The inaccurate habit of thought, however, into which so many men of knowledge allow themselves to fall, renders them a prey to the most bare-faced frauds. The story of the Cardiff giant has not yet been forgotten. This stupendous fraud was conceived in the fertile brain of one George Hull, a tobacconist of Binghamton, N. Y. He secured the gypsum slab in Iowa, and had it cut into the form of a huge man by a stone-cutter of Chicago. To simulate the appearance of great age the figure was rubbed with sand and water, then bathed in writing fluid, and also in sulphuric acid. The image was then boxed, taken to the vicinity of Binghamton, N. Y., and secretly buried in a spot where it was conveniently found a year later, and heralded as the most marvelous discovery of archeological history. People flocked to see the curiosity by thousands and tens of thousands, and it is amazing that, palpable as the fraud was, numbers of very intelligent persons, even among those whose names were known in the scientific world, were hoaxed. It is due to the intelligence of these spectators to say that few gave any credence to the absurd idea that this monster was a petrification, but hundreds who ought to have known better believed it to be a very ancient statue. After this hoax was discovered, Hull, not satisfied by the large gains which the credulity of his fellow men had afforded him through it, got up another. This was a smaller figure, made of a composition of ground stone, pulverized bones, clay, plaster, blood, and dried eggs, and baked in a kiln. This was adver-

tised as the "Colorado stone man," Colorado being then the "wonder State" of the Union. But the public, when it was brought out, had not recovered from the mortification induced by the "Cardiff giant," and bit but warily at the bait of the second humbug. Its originators, therefore, were disappointed in their hopes of great gains. Several times the same hoax has been tried, and the "petrified body" excites some local curiosity, and becomes for a time the staple attraction of a cheap museum, but no one of intelligence is deceived by it. The stories of petrified bodies found in graveyards, that float periodically through the press, are usually made up "of whole cloth," as the saying is, though it is true that bodies of both men and animals have been found encrusted with silicious substance so as to resemble petrifications. These, however, when veritable finds, are fleshless skeletons, the soft part of the body having decayed while the slow process of encrustation was going on. The stories of human bodies "turned to stone," with "features and limbs as well preserved as if they had been chiseled from marble," which, "when tapped with a hammer, gave forth a metallic ring," are noteworthy as remarkable achievements of the imagination, but merit no further consideration. It may be noted here that but one true human petrification has ever been found, and that is the "fossil man of Mentone," discovered in 1873-74. The majority of fossils, be it remembered, are of great age, antedating the existence of man on the earth. In places where the silicious deposits have been rapid, as in limestone caverns, human bones fossilized have been discovered. Two human skeletons were found in an apparent state of complete petrification on the island of Guadaloupe early in the present century. One of these was placed in the British Museum and the other in the museum at Paris. But examination showed that in these the bony structure still remained, though it was completely encased in the calcareous deposits. In excavating in the caverns of Mentone, in France, on the coast of the Mediterranean, some fifteen years ago, M. Riviere, a noted French scientist, found a number of human bones, and a complete skeleton, in a true fossil condition. This discovery was regarded as important, as it showed the existence of men upon the earth at a period of very great antiquity.

#### THE CANCER GERM.

HYDE PARK, Ill.

Is it true that the germ of cancer has been discovered? and does this discovery point out any cure or preventive for this dread disease?

DAILY READER.

*Answer.*—It was stated something less than a year ago that a young physician of Berlin had succeeded in discovering the germ of cancer, and isolating it for study. This physician was Dr. Scheurien, an assistant at the royal hospital, but it must be admitted that the discovery was received with considerable skepticism by the medical profession, and that their doubts are by no means all dissipated as yet, though considerable experimenting has been done with the so-called bacillus, or germ. It was claimed that this bacillus



is found in cancerous matter only. Dr. Scheudlen, to be sure that he was dealing with a new form of micro-life, subjected it to an extended examination under the microscope, and then isolated it and cultivated it according to the usual methods. Injections of portions of this bacillus broth into the veins of a dog produced a chronic sore of a cancerous type. But the cancer germ—so-called—has often such a long period of incubation, during which the disease does not show itself decisively, that it is very difficult to examine and pronounce upon its workings, every experiment requiring at least six months' watching before its true nature can be determined. It does not seem probable that this discovery, even if it is all that it is claimed to be, will lead to any preventive of cancer, though it may lead indirectly to a more certain cure than any other yet discovered.

## VOTE OF IOWA—1860 TO 1884.

WEBSTER, Iowa.

Would like Iowa's vote for President from 1860 to 1884.

W. W. EASTBURN.

*Answer.*—The vote of Iowa for President for the period indicated was as follows:

1860—Lincoln.....	70,409	1876—Hayes.....	171,327
Douglas.....	55,111	Tilden.....	112,099
Bell.....	1,763	Cooper.....	9,001
Breckinridge.....	1,048	Smith (Temp).....	36
1864—Lincoln.....	89,075	1880—Garfield.....	183,904
McClellan.....	49,596	Hancock.....	105,845
1868—Grant.....	120,399	Weaver (Gr.).....	32,327
Seymour.....	74,040	Dow (Pro).....	592
1872—Grant.....	131,566	1884—Blaine.....	197,082
Greeley.....	71,196	Cleveland.....	177,286
O'Connor.....	2,221	St. John (Pro).....	1,492

## SIR ROBERT PEELE.

WESTERN PARK, Kan.

Give a biography of Sir Robert Peel, of England.

OLD SUBSCRIBER.

*Answer.*—Sir Robert Peel, the noted British statesman, was born near Bury, Lancashire, Feb. 5, 1788. He was the son of Sir Robert Peel, a man of humble origin, who had amassed a large fortune in cotton manufacture, and who was created a baronet in return for the great assistance he gave to the government in the raising of troops at the time of the threatened French invasion. The younger Peel received a liberal education, and graduated with high honors in 1808, and the following year was returned to Parliament. Two years later he was made a member of the ministry, and in 1812 was made Chief Secretary for Ireland. His high Tory principles made him very obnoxious to the large party in Ireland headed by O'Connell, and the latter attacked him with such virulence that Peel challenged him to a duel, but the meeting was prevented. One of Peel's important acts was the establishment of a regular Irish constabulary, nicknamed "Peelers," which was the first step toward introducing the system of metropolitan police which is now used in every large town in Great Britain and the United States. Peel resigned the Irish Secretaryship in 1818, but still retained a seat in the Cabinet. His next important act was the introduction of a bill in Parliament providing for a return to specie payments, the British currency having been on a paper basis for many years. In 1829 Mr. Peel, though he had long opposed Catholic emancipation, becoming convinced that the exigencies of the time required it, became one of its supporters. This act made

him many enemies. He was now a leader of the opposition in Parliament, from 1823 to 1841 when he became Premier, and held the office five years. His influence brought about the abolition of the duties on breadstuffs, a measure which made him very unpopular with farmers. His Ministry was overthrown June 29, 1846, on the question of the Irish coercion bill. He remained the leader of his party in Parliament until his death, which occurred July 2, 1850, from injuries caused by being thrown from his horse. Sir Robert Peel was a man of great ability, simple manners, and strict uprightness. He was offered a peerage and other honors by the crown, but steadily refused to accept them.

## SENATOR WILLIAM J. SEWELL.

MARATHON, Iowa.

Will Our Curiosity Shop give a sketch of Senator Sewell, of New Jersey?

LOUIS WESCHE.

*Answer.*—Ex-Senator William J. Sewell, of Camden, N. J., was born in Ireland in the year 1835. Left an orphan when very young, he came to the United States in 1851, and was engaged in business for a time in New York City. Subsequently he entered the merchant marine, but he abandoned a seafaring life, and later he located in Chicago in mercantile pursuits. Just before the opening of the war for the Union he returned to the East, and entered the army as Captain in the Fifth New Jersey Volunteers, and when the conflict closed he was mustered out with the rank of Brevet Major General. He became actively interested in public affairs in New Jersey, and served for nine years in the State Senate, three years being President of that branch of the Legislature. In 1876 and again in 1880 he was a delegate-at-large from New Jersey to the National Republican Convention. He was elected as a Republican to the United States Senate to succeed the Democratic Senator Theodore F. Randolph, and took his seat March 4, 1881, and he retired from that body March 3, 1887.

## THE UNITED STATES MEDAL OF HONOR.

ROME, Mich.

Give an account of the medals of honor conferred by our Government during the war on our heroes of the army and navy, with the names of those who received them.

R. L. T.

*Answer.*—The medal of honor is the one decoration given by the United States to those of its soldiers and sailors who have distinguished themselves by acts of individual gallantry. This decoration was authorized for military service by a joint resolution passed by both houses of Congress and approved July 12, 1862, authorizing the President "to cause 2,000 medals of honor to be prepared with suitable emblematic devices, and to direct that the same be presented in the name of Congress to such non-commissioned officers and privates as shall most distinguish themselves by their gallantry in action and their soldier-like qualities during the present insurrection." This was followed March 3, 1863, by an act authorizing the additional issue of medals of honor for such officers, non-commissioned officers, and privates as have most distinguished, or may hereafter most distinguish, themselves in action, and appropriating \$20,000 to defray the expenses of the same. The medal prepared was a five-pointed star, tipped with trefoil, each point containing a

crown of laurel and oak; in the middle, within a circle of thirty-four stars, America is personified as Minerva, with her left hand resting on the fasces, while with her right, in which she holds a shield bearing the arms of the United States, she repels Discord. The whole is suspended by a trophy of two crossed cannon and a sword surmounted by the American eagle, and linked with the dependent star. A ribbon of thirteen stripes, blue and white, headed with a stripe of plain blue, unites it with a clasp consisting of two cornucopias and the arms of the United States. The medal is of bronze, and no distinction has as yet been made by giving medals of silver or gold where services of peculiar heroism have been performed. This medal is within the reach of the humblest private in the army, and is prized by its most distinguished officers. A large majority of those who have received the medal were enlisted men in the volunteer ranks during the civil war, but many have also been conferred upon members of the regular army—not only for heroic acts during the war, but similar deeds while engaged in fighting hostile Indians in the arduous campaigns on the frontier. The medals of honor for the navy were authorized by an act of Congress passed in the latter part of 1861, to be accorded by the Secretary of the Navy to such petty officers and others of inferior rank as should most distinguish themselves by their gallantry in action in the navy during the war. It was of bronze in the form of a star with five points, with a device emblematic of Union crushing the monster Rebellion, around which were thirty-three stars, the number of States then in the Union. The naval medals were accorded to 320 persons. Those given in the army amounted to several thousand.

#### THE ORIFLAMME OF FRANCE.

CHICAGO, ILL.  
Tell the legend of the oriflamme or magic banner of France.  
SUBSCRIBER.

*Answer.*—There are different stories as to how the oriflamme or sacred banner came into the hands of the ruler of France. One author says that it was given to Charlamagne by the Bishop of Jerusalem, and all infidels who looked upon it were stricken blind. Another legend is that it was made by angels for St. Denis, the patron saint of France. It certainly originally belonged to the abbey of St. Denis, where it was used in religious ceremonies. The Counts of Vexin took the abbey in the tenth century, and, as its patrons, carried the flag. In 1082 Philippe I. attached Vexin to the crown, and the oriflamme became the property of the King. In 1119 it was first used as the national banner. It was a crimson silk flag on a gilt staff. The loose end was cut in three wavy vandykes, to represent triangles of flame, and a silk tassel was hung in each cleft. The name was from the Latin auri-flamma, the flame of gold. When the oriflamme was displayed on the battlefield it indicated that no quarter was to be given, and therefrom it was called "the oriflamme of death." Wherever it was seen thither the soldiers were to push forward to its assistance. When Henry of Navarre encouraged his followers before the fateful battle of Ivry, he told them

that the white plume which he wore on his helmet would be their oriflamme, and they were to follow wherever it led. The use of the oriflamme, as above described, however, had been given up by the royal family of France long before the time of Ivry. The battle of Agincourt, in 1415, is believed to have been the last engagement in which it was carried. Many stories are told concerning the miraculous powers of this sacred banner. Of the battle of Rosbecq, for instance, Froissart says: "No sooner was it unfurled than the fog cleared away, and the sun shone on the French alone."

#### THE X. Y. Z. MISSION.

RATCLIFFE, Kan.  
Who were the envoys sent by the United States to negotiate with France in 1797, and why was it known as the X. Y. Z. Mission?  
R. C. LINTON.

*Answer.*—When President Adams came into office the United States had no diplomatic agent in France, as Mr. C. C. Pinckney, who went out in 1796, had been obliged to withdraw, because of the insolence of the Directory, which then had control of the French government. The refusal of the United States to give any aid to France in its war with England had aroused great indignation, and after the defeat of Jefferson—whom the French regarded as their especial friend in America—for the Presidency, their wrath found expression in an insolent decree which was tantamount to a declaration of war with this country. One of the first official acts of President Adams, therefore, was to call an extraordinary session of Congress to consider our perilous relations with France. There had been by this time such a reaction in popular sentiment concerning the French that quite a strong party favored war, but the Cabinet decided upon an attempt to negotiate for the continuance of peace. Three envoys to France were appointed, John Marshall, Elbridge Gerry, and Charles C. Pinckney, who were to make a final effort for the peaceable adjustment of all difficulties. They reached France in October, 1797, but their request for an audience with the Directory was haughtily refused. A negotiation was then opened with the envoys, in which several gentlemen appeared as friends of Talleyrand, the Minister of Foreign Affairs, whose object, the envoys soon detected, was to ascertain how much money could be obtained from the United States as the price of peace. At last a formal demand was made, which was that the envoys should agree to pay into the exhausted French treasury a large sum of money in the form of a loan, by purchasing the Dutch bonds held by France, and a bribe of \$240,000 to secure the personal favor and aid of the five members of the Directory. This demand was accompanied by the threat that if not complied with the envoys might be ordered to leave France within twenty-four hours, and that the French fleet would then be sent to ravage the coasts of the United States. The proposition was promptly and positively refused by the envoys. Pinckney is said to have uttered on this occasion the famous sentence: "Millions for defense, but not one cent for tribute!" But when the old gentleman subsequently told the story himself he gave his own words as: "Not a penny, gentlemen, not a penny!" Messrs. Pinckney and Marshall were then obliged to with-



draw, but Gerry, who was an anti-Federalist, was allowed to remain. He, however, was treated with such contempt and insolence, that he soon after returned home in disgust. The name "X. Y. Z." was attached to the above mission for the following reason: During the session of Congress in 1797-98 there was much discussion concerning the uncourteous treatment of our envoys by the French Government, and quite a strong party favored a declaration of war. A demand was therefore made on the President for copies of the correspondence of the envoys with our State Department. In these the names of the persons who had brought to the envoys the propositions of the Directory demanding money, and to whom the envoys had promised secrecy, were not given, but for their names the letters X, Y, and Z were substituted. The President requested that the papers might be first considered in secret session, but after that he left it to the discretion of Congress to publish them or not, as it might think proper. The publication was decided upon by both houses, and copies were sent to the leading newspapers of the country. Their effect was to produce a most intense popular feeling against the French.

## THE PASSING OF ARTHUR.

NEW HAVEN, ILL.  
 Explain the poem, "The Passing of Arthur," by  
 Tennyson. J. W. JONES.

*Answer.*—This poem is founded on the celebrated work, "La Morte d'Arthur," written in French by Walter Mapes in the thirteenth century, and translated into English by Sir T. Mallory in the fifteenth century. The romance of King Arthur ends with the account of a wound treacherously given him by his false nephew, Modred, at a battle fought near Salisbury, against the invading Saxons. The poem of Tennyson gives the legendary account of the King's last hours. He was borne wounded from the battlefield, and was carried to a ruined chapel near the scene of conflict to die.

"A broken chancel with a broken cross,  
 That stood on a dark strait of barren land.  
 On one side lay the ocean, and on one  
 Lay a great water, and the moon was full."

The King's first thought was to restore his magic sword, Excalibar, to the unseen powers that had given it to him. The legend was that the enchanter, Merlin, took the king, when a young man, to the borders of a lonely lake, and, saying some magic words, an arm rose from the water, "clothed in white samite, that held a fair sword in the hand." The lady of the lake now appeared, and bade the King to go into the water and take the sword. When he had done so the arm and hand went under the water again. With this sword the King was always able to vanquish his enemies. It is said to have been decorated with so many brilliant jewels that "it gave light like thirty torches." It was made, the legend said, by Vivien, the "Lady of the Lake," who was versed in all magic.

"Nine years she wrought it, sitting in the deeps  
 Upon the hidden bases of the hills."

When King Arthur lay dying he called to his side Sir Bediver, one of his Knights of the Round Table,

and bade him take the sword Excalibar and hurl it into the depths of the lake, and further, to watch what happened and report it. Sir Bediver started to do the King's bidding, but when he stood alone on the lake shore, the temptation to retain the beautiful weapon was so great that he hid it among the water-flags, and then returned to the King. When asked what he had seen and heard, he said that he had only—

"heard the ripple washing in the reeds,  
 And the wild water lapping on the rag."

The King recognized the deception, and with reproachful words sent him back again. Again the knight found temptation too strong for his sense of obedience, and again the dying King angrily censured his weakness. Sir Bediver then plunged in among the bulrush beds and hurled the sword into the stream. A hand, clothed in white samite, or silk stuff, rose from the water, seized the sword, and drew it beneath the water. The knight then returned to the King to tell him what he had seen, and Arthur then knew that his end was near. Leaning heavily upon the arm of Bediver, the King made his way slowly to the water's edge. Here a barge draped in black met them, and on its deck were three beautiful Queens with crowns of gold. These took the dying King in their arms and wept and wailed over him. Then, though Bediver begged to be allowed to go with his King, the barge moved away over the lake till it disappeared in the far distance. Where it came from or whither it went was never known. But the tradition that Arthur was not dead lived long in legendary lore. He had been carried, it was said:

"To the island valley of Avillion,  
 Where falls not hail, or rain, or any snow,  
 Nor even wind blows loudly, but it lies  
 Deep-meadowed, happy, fair, with orchard lawns.  
 And bowery hollows crowned with summer sea"

Another legend was that he slept in a cave, and still another that had been turned into the shape of a bird, to resume his true form after a thousand years. All agreed, however, in the prediction that at the appointed time he would appear "full twice as fair as of old, to rule over his people."

## SEVENTY-SIXTH OHIO INFANTRY.

CHICAGO.  
 Give a sketch of the Seventy-sixth Ohio Infantry.  
 W. H. ROSE.

*Answer.*—The Seventy-sixth Ohio Infantry was organized at Newark, Ohio, Feb. 9, 1862. Its colonel was Charles R. Woods, who had been a captain in the Ninth United States Infantry. It was immediately sent forward, and its first experience of fighting was in the attack on Fort Donelson. It was also in the front in the bloody battle of Shiloh. It took part in the advance on Corinth, in June was sent to Memphis, and in July to Helena, Ark. It took part in several raids into the enemy's country, during which it had considerable skirmishing, and in December shared in the unfortunate Yazoo expedition. It was in the expedition against Arkansas Post, and in April moved with Grant's army southward, to execute the flank movement against Vicksburg. At Jackson it made a gallant charge on the enemy's works. Before Vicksburg it did heroic work in the trenches. After the sur-

render it went with Sherman's army to capture Jackson. In September the regiment went to Memphis, in November was sent to join General Hooker, arriving in time to take part in both the fights on Lookout Mountain and Mission Ridge. It went into winter quarters at Point Rock, Ala., Jan. 1, and there nearly all of the regiment re-enlisted. The soldiers were then allowed veteran furlough, and in March rejoined the army. It immediately took up the line of march southward with Sherman, sharing in all the battles of the Atlanta campaign. After the surrender, the regiment performed provost guard duty until Jan. 9, when it embarked on gunboats for Beaufort, S. C. From there, after a little delay, it started northward on the "Campaign of the Carolinas." It was at the capture of Columbia, and at the fight at Bentonville, and thence went to Raleigh, where it remained until Johnston's surrender. It went to Washington in May to take part in the grand review, then returned to Columbus, Ohio, and was there discharged July, 24, 1865.

#### IRON AND STEEL—TARIFF AND WAGES.

ANDOVER, D. T.

What does it cost per ton to ship bar iron, steel rails, and pig-iron from England to Chicago? Also, what is the duty on those articles? Why can't iron be manufactured as cheaply in Pennsylvania as in England?

G. H. BAKER.

*Answer.*—Steel rails and pig-iron can not be made as cheaply in Pennsylvania as in England, because there is this remarkable difference in the wages of the two regions.

#### Pennsylvania. England.

Rail straighteners per day.....	\$10.00	\$1.35
Rollers.....	5.70	2.50
Rail-mill heaters.....	8.50	1.60
Iron ore miners.....	2.25	1.10
Blast furnace keepers.....	3.25	2.00
Machinists.....	2.75	1.12
Common laborers.....	1.50	.62

The duty on steel rails is 1 cent per pound for "tee rails" weighing not over twenty-five pounds to the yard, and the same on iron rails for railways. Freight from England to America varies in price with supply and demand, just now it is very low, for there is comparatively little importation. Under free trade it would be very high, for nearly all manufactures used in this country would have to be imported.

#### ONE HUNDRED AND FOURTEENTH OHIO INFANTRY.

MANHATTAN, Kan.

Give a brief history of the One Hundred and Fourteenth Ohio Volunteer Infantry.

A. B. EVANS.

*Answer.*—The One Hundred and Fourteenth Ohio Infantry was mustered in at Circleville, Ohio, Sept. 11, 1862. It was sent forward to Memphis, and then to join Sherman's army on the Yazoo River. As the attempts to approach Vicksburg from the Yazoo were a total failure, this regiment with many others was sent in March to Milliken's Bend, to await the massing of the army by Grant, for a movement upon Vicksburg from the South. The One Hundred and Fourteenth was at the fights at Thompson's Hill, Champion Hills, Black River Bridge, and in the foremost of the attacking force during the siege. In August it was sent to New Orleans and in November to Texas. In the following April it was ordered back to Louisiana, and was stationed at Morganza from May to November. It went up into Arkansas for a brief

stay, then came back to Morganza. In June it was sent to Florida, then back to Texas, and in the following July was sent home for discharge.

#### THE YATES SHARP-SHOOTERS.

TOLONO, Ill.

Give a sketch of the Sixty-fourth Regiment of Illinois Infantry, called the "Yates Sharp-shooters."

J. H. N.

*Answer.*—This regiment was organized at Camp Butler, Ill., in December, 1861, by Colonel D. E. Williams. It was sent to Quincy to be armed, and in March following was sent to join Pope's command. It was at the siege of Corinth, after which it went into camp at Big Springs. Soon after it was detailed as head quartermaster's guard to General Rosecrans, on which duty it remained until the November following. Was engaged in the second battle of Corinth, where it lost heavily. Was stationed at various points doing post duty, during the entire year of 1863. In January, 1864, over three-fourths of the regiment having re-enlisted, it went north on veteran furlough, rejoining the army at Decatur, Ala., March 23. It was then sent to join Sherman's army, and was through all the fights of the Atlanta campaign. It accompanied General Sherman on his "march to the sea," then went to Washington to take part in the grand review. Was mustered out at Louisville, Ky., July 11, and received final payment and discharge at Chicago, July 18, 1865.

#### BAKUNIN.

ROCHESTER, Minn.

Will Our Curiosity Shop give a sketch of Bakunin?

Y. D. S. (OXON).

*Answer.*—The Russian revolutionist Mikhail Bakunin came from an old family, and was born in the year 1814 at Torzhok, Tver. He was first in the military service, and quitted that to take up the study of philosophy ostensibly, but soon became noted for his relations with revolutionists of France, Germany, and Poland. His reputation before he was 30 years old was that of a resolute and reckless revolutionary agitator. It is remarkable in looking over the list of proscribed prominent revolutionists to find so many to be men and women of ability, and family, and learning. In 1841 and thereafter he left Russia and resided variously in Germany, France, and Switzerland. Upon his declining to return to Russia, his estates in his native land were confiscated. His course in France made him noted there. At the request of the Czar he was expelled from France for having made an inflammatory speech in favor of a Polish-Russian alliance for the overthrow of Russian despotism. He was active in the Slavic congress in Prague and in the trouble that followed, and again he had to seek safety in flight. Berlin furnished him refuge for a time, but he was at length expelled. He was in 1849 a member of the revolutionary government and a reckless leader in the Dresden outbreak. He was a prisoner for eight months after the uprising was suppressed, and he was sentenced to death in May, 1850, but this was commuted to perpetual imprisonment. Then he was surrendered to the Austrian government, by which he was condemned to death and the sentence commuted. The Austrians in turn handed him over to the Russians, and he was kept in prison until after the Crimean war, when



they sent him to Siberia. From there he escaped to Japan, thence to the United States, arriving here early in 1861. He returned to Europe and resided chiefly in Switzerland. His life has been one unbroken series of revolutionary adventures, and his career reads like a romance. His writings have been considerable, all in the revolutionary line.

#### THE CHARLESTON EARTHQUAKE.

Give a brief description of the great earthquake at Charleston, S. C., and the theories of its cause.

CHICAGO.

L. M. C.

*Answer.*—This earthquake occurred on the night of Aug. 31, 1886. It was felt at points as far inland as the Mississippi, and in the cities of Richmond, Raleigh, Cleveland, Memphis, and others, but its most serious effects were shown at Charleston, S. C., where a very large part of the city was destroyed. Hundreds of buildings were thrown down, and thousands so badly racked as to need rebuilding. Property to the extent of many millions was destroyed, and between thirty and forty lives were lost. Some of the phenomena of this earthquake were quite remarkable. For miles through the marshy country stretching inward from the city deep fissures opened in the earth, throwing out jets of sulphurous mud. Wide pools were formed in a moment, and often almost immediately swallowed up again. Each movement was preceded by a loud, rumbling roar from the heart of the earth, and the ground rose and fell like a wave of the sea. A curious fact was noted concerning the village of Summerville, some twenty miles from Charleston. This village is situated on a hill about two hundred feet above the level of the city. The shock was felt very severely there, and when it was over, the site of the village seemed to have been lifted up about two feet, for buildings in Charleston that could not be seen previously were then found to have come plainly into view. Investigation showed that the horizon line of observers from the village was changed, and that the earth movement had either depressed the general level of the surrounding country or raised that of Summerville village. Many stories as to the origin of the earthquake were advanced. The impression was quite strong at first that this earthquake was connected in origin with the disturbance of the Mediterranean coast a week previous, but it was noted that there was no attendant tidal wave on the Atlantic coast, which quite disproved the theory of connection. Professor McGee, of the United States geological survey, advanced a theory whose plausibility was generally admitted by scientists. This was that the convulsion was not volcanic in origin, but was caused by a subterranean landslide, starting perhaps several hundred miles out in the sea. The geological formations of the Atlantic Coast States seemed to give warrant to this theory. There are east of the Appalachian mountain range two great formations, the granite and the fragmental. The first extends from the mountains to near Columbia, S. C., and the latter from Columbia to the sea. Geologists know the first as the Piedmont escarpment, and the latter as the coastal plain. The escarpment is of granite,

while the plain is made up of composite rocks and fragments resting on a granite bed about 3,000 feet below. The granite bed that holds this mass of earth is inclined toward the sea, and some 200 miles or more from the shore it dips suddenly. The tendency of the fragmental plain is to slide down the granite plain on which it rests. This tendency is still further increased by deposits of sand and gravel constantly brought into the fragmental mass by rivers flowing down from the mountain. Professor McGee's theory was that a seaward slip of this coastal plain, dislocating an area perhaps of 100,000,000 cubic feet of earth under the ocean, caused the earthquake shocks felt upon the main land. The facts on which this theory was based were: (1) that the seaward movement of the loose soil on the Appalachian slope to the Atlantic has been going on steadily for many years, and has been noted by many geologists; (2) that no volcanic action had ever disturbed so great an area or could possibly do so; (3) that the so-called mud and sulphurous water that appeared on the surface of the earth were simply marls and salts, or sulphurets released from the layers of earth in which they were confined by the tearing motion and forced upward through the suddenly made rifts; and (4) that all the phenomena could be explained by the theory of the landslide, but not by that of volcanic action. One advantage of this theory, and the one which perhaps inclined many to believe it, is that if it be true, it removes all apprehensions of recurring convulsions of a similar character on the Atlantic coast. Were the earthquakes of 1886 caused by an outbreak of volcanic movement beneath the surface of this hemisphere, a sense of insecurity altogether new to this part of the globe, and very painful, would be the inevitable result, as disturbances might recur at any time. But admitting this land slide theory to be correct, no apprehensions need be had of recurrence of the shocks, as a like cataclysm would not probably occur again in thousands of years.

#### "FULTON THE FIRST."

FREMONT, Ohio.

Will Our Curiosity Shop give an account of the steam war ship built at the Brooklyn Navy Yard in 1813?

J. S. PLATT.

*Answer.*—The war of 1812, between Great Britain and the United States, opened with this country having no fleet that could be called a navy, and too fresh from the great war of the Revolution to have had opportunity for the infant Republic to grow strong either on sea or land. It was the period of experiment in steam as applied to navigation, and before the war was over Robert Fulton's services were called for. In the beginning of the year 1814 there was undertaken in Noah Brown's ship yard, New York, a steamship intended for harbor defense. This enterprise was under the direction of Robert Fulton. The construction of this craft created the liveliest interest at home and abroad. Lossing, in his "Story of the United States Navy," gives the following, which he credits to a treatise on steam vessels, published in Scotland not long after the "Fulton the First" was built: "Her length is 300 feet; breadth 200 feet; thickness of her sides 13 feet,

of alternate oak plank and cork wood; carries forty-four guns, four of which are 100-pounders; can discharge 100 gallons of boiling water in a few minutes, and, by mechanics, brandishes 300 cutlasses with the utmost regularity over her gun-wales; works, also, an equal number of pikes of great length, darting them from her sides with prodigious force and withdrawing them every quarter of a minute." The real steamship is described as follows: The hull consisted of two boats, separated by a channel fifty feet wide, one boat containing the copper boiler for generating steam, the other occupied by the machinery. The propelling wheel revolved in the space between them, and they were connected by a deck extending over the whole. The vessel was 145 feet long and 50 feet wide; had two masts, rigged with sails, and mounted thirty 32-pounder carronades and two columbiads of 100 pounds each. She was launched on the morning of Oct. 29, 1814, in the presence of thousands of persons, and made her trial trip on July 4, 1815, going a short distance to sea, and was propelled by her engines alone at the rate of six miles an hour. She was a floating battery, and was named "Fulton the First."

#### THE INVENTION OF THE COTTON GIN.

(HESTER, Mich.)

Who was the inventor of the cotton gin? Give the circumstances under which it was first made. Is there any truth in the claim that it was invented by a woman?

L. LEESON.

*Answer.*—There is no doubt that the first inventor of the cotton gin was Eli Whitney, and that all other claimants to the honor are mere pretenders. Whitney was the son of a Massachusetts farmer, and was born in December, 1765, at Westborough, in that State. From his earliest childhood he showed that remarkable power of mind that is known as inventive genius, and a peculiar aptness in handling tools. It is said that before he was 10 years old he could use any tool that he had ever seen with dexterity, and before he was 12 he had made a violin, and acquired wide fame as a skillful mender of fiddles. He became a nail-maker, and at this business and other applications of his manufacturing skill he made money enough to take a college course. He entered Yale College in 1789, graduated three years later, and went South to teach. His ambition was to become a lawyer, and he began the study in Savannah, while boarding in the family of the widow of General Nathaniel Greene, and eking out his scanty means by coaching boys for college. One day he chanced to hear Mrs. Greene complaining of the clumsiness of her tambour, and readily made a much better one for her, to her great delight. At that time a few pounds of cotton were all that could be cleaned by a single laborer in a day. A planter in Mrs. Greene's presence expressed a wish that a machine could be invented for the work, and she advised him to consult young Whitney, saying, "If anyone can make the machine, he can." At that time Whitney had never examined a cotton boll, though he must have seen the plant growing in the fields. He was ready enough to undertake the task but for two obstacles, he had neither money nor tools. An old college friend supplied the money, and the tools

Whitney made himself. Mrs. Greene and Mr. Miller, who afterward became Whitney's partner, were the only persons allowed to see the machine in the process of construction, but the news of the wonderful invention and its value got abroad, and before it was complete some vandals broke open the building one night and carried off the unfinished machine. Half mad with rage and despair, the young man left the State for which he was to create such great prosperity, went back to Connecticut and there completed his work. But he had scarcely been away from Savannah a week, when two other claimants to the invention had appeared, and a few months later the stolen invention came out. However, Whitney received his patent in March, 1794, and he and Mr. Miller began the manufacture of the machines in Connecticut. The patent, however, was continually infringed upon, and Whitney had to struggle hard to secure any reward for his labor. In 1801 the South Carolina Legislature granted him \$50,000 for his invention, but he had to endure innumerable and vexatious lawsuits and delays before he got the money. North Carolina allowed a percentage on the machines, and paid it honorably for a number of years, and Tennessee pledged herself to do the same thing, but basely repudiated her contract. For years Whitney struggled on against an accumulation of misfortunes, lawsuits, the burning of his factory, false reports that his machine injured the fiber of the cotton, the refusal of Congress to allow the renewal of his patent; until at last, convinced that he would never receive a just compensation for his invention, he turned his attention to the manufacture of firearms for the Government, from which he reaped a comfortable fortune. He was the first to adapt machinery to the manufacture of the parts of a gun, so that any one piece should be equally adapted to any one of thousands of arms made by the same pattern. Several of his inventions were applied by others to other manufactures of iron and steel, which added considerably to his reputation, but not to his wealth.

#### BRITISH CORONATION STONES.

TRENTON, Ill.

Where is the Coronation Stone of England? Give its history, and how it is connected with the similar stones of Scotland and Ireland.

T. J. LUSE.

*Answer.*—The Coronation Stone of England is a rough block of stone placed inside of a chair in Westminster Abbey. This block was originally the coronation stone of Scotland, and was taken by Edward I. when he forced his rule over the Scottish people, and was by him brought to England as a trophy of victory, and built in the chair in which it now is. Since then all English sovereigns have been crowned upon it, and previous to its transfer, the Scottish rulers had been crowned upon it for probably many hundred years. This is the sum total of the authentic history of the stone, but tradition had prefixed to this brief outline an extended chapter of events. This says that a Greek, named Gathelus, married Scota, a daughter of the Egyptian King, Pharaoh of the Exodus. After the destruction of the Egyptians in the Red Sea, the Greek prince fled with his bride, and the remnant who had escaped drowning, to Southern Spain, and founded a king-



dom ar Brigantium, the modern Compostella. He had a royal chair made, carved from stone, and this was guarded with much care by his descendants, who believed it to be the means of insuring sovereignty to their race. This tradition was further amplified by the story that the stone in question was identical with the stone on which Jacob rested his head on the plain of Luz, which had been carried by the Hebrews to Egypt, and guarded by them with reverent care. At a date which can not be placed except by conjecture, a descendent of Gathelus took this stone to Ireland, and a long line of Irish kings were crowned upon it. About 330 B. C., Fergus, the Irish king who conquered Scotland, transferred the stone to his new dominions. Some time later it was placed in the abbey of Scone, where it remained until taken away by King Edward, as previously stated. It is called the "Stone of Destiny," and the "Prophetic Stone," from a popular belief that its removal would bring ruin upon the Scottish nation. Edward, no doubt, thought that this superstition would aid in weakening the resistance of the people when the stone had been removed, but the heroism and determination of Robert Bruce proved the prophecy a false one. As for the Irish coronation stone, called by Irish bards the Lia Fail, the above tradition seems to identify it with the stone of Westminster Abbey. The secret of the Fenian oath is said to be the restoration of this Lia Fail to Ireland. But there is still a similar stone on the Hill of Tara, Ireland, near the site of an ancient Irish palace—that of the kings of Tara. And from the fact that the geological structure of the Scottish stone is altogether the same as that of the rocks in the vicinity of Scone, and has no resemblance whatever to the rocky formations of Tara, Egypt, or Bethel, it has been decided that the story of its early migrations is altogether mythical. And there is really no reason to doubt that the stone still on the hill of Tara, is the true Lia Fail, or sacred stone, of the early poets, and has never, at any time, been removed from its original resting place.

#### A PERIOD OF HEAVY INTEREST.

Did the government, under Buchanan's administration, borrow \$10,000,000 to \$20,000,000 and issue bonds therefor drawing 12 per cent interest per annum and put these bonds on the market at less than par?

J. B. POWERS.

*Answer.*—When Franklin Pierce became President the public debt aggregated \$69,129,937.27, and later was increased by \$2,500,000 to liquidate the debt of Texas. In November, 1856, this had been reduced to \$30,963,909.64. There was a considerable sum due to the Indian tribes, growing out of the extinction of their title to the public lands. In 1856 this amounted to \$21,066,501.36, and was payable at different times. The reduction of the public debt was so rapid that the Government parted the next year with a portion of its revenue. Then came the financial crisis of 1857. The National income speedily decreased, and public credit likewise declined. After much trouble and great financial distress money had to be borrowed to meet current obligations. The \$20,000,000 Treasury notes issued in December, 1857, payable in a year, could not be met when they matured. The

Government tried to float the stock of enough to meet the Treasury notes that would fall due in January, 1861. Finally, Congress authorized the issue of \$10,000,000 of Treasury notes in lieu of \$11,000,000, redeemable at the end of one year, and bearing 6 per cent interest until called for redemption. The Secretary of the Treasury was, however, authorized to issue them, after advertisement, at such rates of interest as might be offered by the lowest responsible bidders. Notes were soon afterward issued, under this act, for the following amounts, at the rates specified:

Amount.	Per cent.	Amount.	Per Cent.
\$70,200.....	6	\$77,000.....	9½
5,000.....	7	1,027,500.....	10
24,500.....	8	266,000.....	10½
33,000.....	8¼	623,000.....	10½
10,000.....	8¾	1,367,000.....	10¾
65,000.....	9	1,432,700.....	11
10,000.....	9¼	4,840,000.....	12
160,000.....	9½		
		\$10,010,900	

#### THE INDIAN TRIBES AND AGENCIES.

Give the names of the principal Indian tribes now in the United States; also the location and number of each.

PAW PAW, Mich.

E. H. HARVEY.

*Answer.*—Over one-fourth of the Indians now living are included in what are known as the "five civilized tribes," that live in the Indian Territory, and whose names and numbers are as follows: Cherokees, 23,000; Choctaws, 18,000; Chickasaws, 6,000; Creeks, 14,000; Seminoles, 3,000. The other tribes are all small, except the Sioux, and distributed on the various reservations in twenty-three States and Territories.

In Arizona there are three agencies—the Colorado River Agency, under which are the following Indians: Mohaves, 769; Chimehuevis, 202; Yumas, 800; the Pima Agency, which has Pimas, 4,108; Maricopas, 310, and Papagos, 2,162; the San Carlos Agency, with 1,687 White Mountain Apaches, and of Apaches of six other tribes, 3,290. There are also in Arizona of Indians not under an agent, 1,342, of the Mohave and other tribes.

In California the tribes are distributed as follows: Hoopa Valley Agency, Hoopas, 460, Klamaths, 213; Mission Agency, Serranos, 490. Dieguenos, 872, Coahuilla, 597, and San Luis Rey Indians, 1,153; Round Valley Agency, 551 Indians belonging to the Ukie and other Klamath tribes; Tule River Agency, of the King's River and other bands, 679; also of Indians scattered throughout the State and not under an agent a total of about 6,365.

In Colorado there are at the Southern Ute Agency, of the Moache and other Utes, 995, and Jacarilla Apaches, 785.

Dakota has at the Cheyenne River Agency, of Blackfeet and other Sioux, 2,783, mixed bloods, 153, Crow Creek and Lower Brule Agency, Sioux, 2,252; Devil's Lake Agency, Sioux, 928; Chippewas, 1,126; Fort Berthold Agency, Arickarees 507, Gros Ventres, 502, Mandans, 286; Pine Ridge Agency, Ogalalla Sioux, 4,197; Cheyennes, 323; mixed bloods, 462; Rosebud Agency, Brule and other Sioux, 7,460; Sisseton Agency, Sioux, 1,579; Standing Rock Agency, Uncapapa and other Sioux, with a few of mixed blood, 4,545; Yankton Agency, Yankton Sioux, 1,777.

Idaho has at the Fort Hall Agency, Bannacks, 490,

Shoshones, 1,040; at Lemhi Agency, about 554 of both those tribes; at Nez Perce Agency, Nez Percés, 1,192, and of Indians not included in the agencies, the Pend d'Oreilles and Kootenais tribes, numbering about six hundred.

Aside from the civilized tribes, there are in Indian Territory, at the Cheyenne and Arapaho Agency—Cheyennes, 2,058; Arapahoes, 1,072. Kiowa, Comanche, and Wichita Agency—Kiwias, 1,179; Comanches, 1,646; Apaches, 332, Caddos, 525; Wichitas, 192; Towaconies, 157, and belonging to the Delaware, Keechie, and Waco tribes, a total of 188 souls. There are also at the Osage Agency, in the same Territory—Osages, 1,501; Kaws, 193; Quapaws, 74. Pawnee and Otoe Agency—Pawnees, 918; Poncas, 523; Otoes and Missouris, 355; Tonkawa and Lipan Indians, 85. Quapaw Agency—Shawnees, 83; Miamis, 64; Modocs, 91; Ottawas, 111; Peorias, 154; Quapaws, 104; Senecas, 247; Wyandottes, 267. The Sac and Fox Agency in Iowa, is occupied by 380 descendants of these once famous allied tribes. The Agency of the same name in Indian Territory has 528 Sac and Fox Indians; also, Shawnees, 722; Pottawatomies, 418; Kickapoos, 325; Iowas, 89, and of other tribes, 150.

The Pottawatomie and Great Nemaha Agency, in Kansas, has Kickapoos, 233; Iowas, 145; Pottawatomies, 474, with 156 Chippewas and others.

Michigan has, at Mackinac Agency, of the various Chippewa tribes, including some Ottawas, 2,216, and Pottawatomies, 76; and Minnesota, at the White Earth Agency, of Chippewas, 4,533, and Pillager Indians, 1,554.

In Montana there are at the Blackfeet Agency, including Blackfeet, Blood, and Piegan Indians, 1,927; at Crow Agency, Crows, 2,456; at Flathead Agency, Pend d'Oreilles, 806; Kootenais, 432, and Flatheads, 728; Fort Belknap Agency, Gros Ventres, 904; Assiniboines, 816; Fort Peck Agency, Yankton Sioux, 945; Assinaboines, 827; Tongue River Agency, Cheyennes, 819. Nebraska has at the Omaha and Winnebago Agency, Omahas, 1,160; Winnebagos, 1,210; at Santee and Flandreau Agency, Poncas, 208; Santee Sioux, 1,094.

In Nevada, at the Nevada Agency, there are Pah-Utes, 894; Pi-Utes, 150, and at the Western Shoshone Agency, Shoshones, 296; Pi-Utes, 115, while of Indians wandering from the reserves in the State there are a total of about 6,500.

In New Mexico the Mescalero Agency enumerates Mescaleros, 437; the Navajo Agency, Navajoes, 17,838; Moquis Pueblos, 2,206, and the Pueblo Agency, Pueblos, 8,337.

In New York there are still some remnants of the old historic tribes, scattered on several small reservations in different parts of the State, a total of 4,966 Indians, divided thus: Senecas, 2,792; Onondagas, 326; Cayugas, 176; Oneidas, 364; Tuscaroras, 454, and St. Regis Indians, 914.

In North Carolina and Tennessee and adjoining States there are still some 3,000 Cherokees scattered about.

In Oregon there are at Grand Ronde Agency of the Umpquas and other tribes, 399; at Klamath Agency, of Klamath, Modoc and Snake Indians, 925; Siletz Agency, remnants of a large number of tribes amounting to 608 in all; at Uma-

tilla Agency, of Walla Wallas and others, 984; Warm Springs Agency, of different tribes, 857, and roaming on Columbia River, some 800 Indians of different tribes, for whom no agency has been provided.

There are no Indian agencies in Texas, but there are a few Alabamas, Cushattas, and Muskokees scattered through the State, making a total of about 300.

In Utah the Uintah and Ouray Agency provides for 2,041 Utes of different bands, but there are some 400 or more in roaming bands through the territory, not under agency jurisdiction.

In Washington Territory the Colville Agency has the oversight of 3,088 Indians of the Calispels, Spokane, Nez Perce, and other tribes; the Neah Bay Agency has 793 Makahs and Quillehutes; the Quinalt Agency has tribe remnants belonging to the great Selish family mainly, 645; the Nisqually and S'Kokomish Agency, 1,692; the Tulalip Agency, 1,278; the Yakama Agency, 1,741, beside some 2,000 Yakamas not kept on any reserve.

Wisconsin has under the Green Bay Agency, Oneidas, 1,732; Menominees, 1,310, and Stockbridge Indians, 134; under La Pointe Agency, Chippewas, 4,042; Pottawatomies, 100, besides some 930 Winnebagos and 280 Pottawatomies outside of agency control.

There are in Wyoming at the Shoshone Agency, Arapahoes, 988; Shoshones, 876.

And, finally, there are in Indiana and Florida some Miamis and Seminoles, with total number estimated at 892, and in Maine about 410 Old Town Indians. The above summary is condensed from the tables of population given in the report of the Commissioner on Indian Affairs for 1887. In an article published in this department some months ago there were given the names and locations of the larger tribes and groups of the Indians, in which many of the tribes here noted are included, and the study of that article, in conjunction with the above, will give a very fair idea of the location of what still remains of the Indian families and tribes of the United States.

#### THE MASSACRE OF CAPTAIN GUNNISON.

SPRINGDALE, Dak.

Will Our Curiosity Shop give the particulars of the massacre of Captain Gunnison and party, while surveying a route for a Pacific railway in 1853?

W. S. WAIT.

Answer.—During the session of 1852-3 Congress authorized surveys for a railroad to the Pacific, by engineers appointed by the President. By the following summer four expeditions had been organized to explore different routes. The first of these, under Major Stevens, was to explore a northern route from the Upper Mississippi to Puget's Sound. The second, under Lieutenant Whipple, was to follow a line as near as possible to the 36th parallel of north latitude, proceeding from the Mississippi across the plains through Walker's Pass, striking the Pacific coast near San Pedro or Los Angeles. The third party, under Captain Gunnison, was to pass through the Rocky Mountains near the headwaters of the Rio del Norte, and explore a way into California through the valley of the Huernano River and the Great Salt Lake in Utah. The fourth party of surveyors was to leave



the Lower Mississippi, and make its way by the best route attainable to a terminal point on the Pacific, near San Diego. The line allotted to Captain Gunnison lay between the 38th and 39th parallels. He left the mouth of the Kansas River and reached the Severn River, in the great basin of the Salt Lake, without meeting any hostile demonstrations from the Indians. At this point the murder of Captain Gunnison and several of his associates cut short the expedition. Gunnison, with four associates and an escort of a corporal and six men, left the camp about noon one day for the purpose of exploring the vicinity of Severn Lake. The next morning the corporal came reeling into the camp, weak, wounded, and exhausted, bringing news of the attack. From his story it was learned that Gunnison had encamped early in the afternoon, choosing a nook in the river bottom, inclosed on one side by the high bank of the river, and on two other sides by thick willows. Here they had abundant water, grass, and fuel. Though they knew there was a band of Indians near they were under no fears of attack, for the red men had appeared to be entirely friendly. The camp was guarded during the night, and the soldiers rose early the next morning to continue their explorations. Before sunrise they were at breakfast, when they were startled by the sound of a rifle volley, and a shower of arrows was poured among them. The Indians had approached to within twenty-five yards without being seen. The camp was thrown into terrible confusion. The captain attempted to rally his men to make a stand, but it was impossible to resist the numbers of the assailants. The Indians plunged into the camp, and the white men rushed for their horses, and thus a few of them escaped. The others were all killed and scalped.

#### "OLD PARR."

COMPTON. III.

How old was the famous "Old Parr" said to be at the time of his death? Did the great physician Harvey, who is said to have made a post-mortem examination of Parr's body, regard the reported great age of the man as correct?

READER.

*Answer.*—Thomas Parr, whose case is quoted as the most remarkable instance of longevity on record, was born in Shropshire, England, in 1483, and died Nov. 15, 1635, at the age of 152 years, 9 months. Though the great age of this patriarch has been doubted, there seems to be sufficient historical evidence to verify the record. The principal authority for the story of Old Parr is John Taylor, the water poet, who published a pamphlet entitled "The Olde, Olde, Very Olde Man; or, the Age and Long Life of Thomas Parr." From the period at which this work was issued, and the care the writer seems to have taken to verify his assertion, it seems probable that considerable reliance can be placed on its statements, which were not disputed at the time they were made. Thomas Parr was the son of a farm laborer, and throughout his long life followed the same occupation. He continued a bachelor until he reached the age of 80, then married a young woman, with whom he lived for thirty-two years, and by whom he had several children. About eight years after his first wife's death, being then 120 years old, Parr married for the second time. In 1635, the Earl of

Arundel, hearing the reports of this remarkable old man, went to visit him, and was astonished at his apparent vigor at the great age he claimed to have attained. The Earl then persuaded the old man to undertake a journey to London. There he was presented to the King (Charles I.) and attracted a great deal of attention. It would probably have been better for the old man had he been allowed to remain undisturbed in his quiet home, for soon after his arrival in London, owing to fatigue or the excitement of many visitors, Parr fell ill and died. He was buried in Westminster Abbey, and a monument was there erected to his memory. After his death his body was examined by the celebrated Dr. Harvey, who found it remarkably stout and healthy, without trace of organic disease, so had it not been for the abnormal influences to which he was subjected for a few months previous to his death Old Parr might have added several more years to his long life. We give some extracts from the report of the autopsy by Dr. Harvey, who, by the way, fully accepted the statement concerning Parr's great age. He gives the physical peculiarities thus: "Body muscular, chest and forearms hairy, the hair still black, chest broad and ample, lungs, nowise fungous, adhered, especially on right side, to ribs; heart large, thick and fibrous, with considerable quantity of fat; cartilages of ribs soft and flexible; stomach and intestines and all the viscera sound; kidneys healthy; \* \* \* brain healthy, firm and hard to the touch." As to the habits of this remarkable man, some facts are appended to the doctor's report. It was recorded that he "had observed no rules or regular time for eating, was ready to discuss any kind of eatable that was at hand, his ordinary diet consisting of sub-rancid cheese and milk in every form, coarse and hard bread, and small drink, generally sour whey. On this sorry fare, but living in his home free from care, did this poor man attain to such length of days. He was accustomed to walk about, slightly supported between two persons; had been blind for twenty years, heard extremely well, understood all that was said to him, answered immediately to questions, and had perfect apprehension of any matter in hand; his memory was, however, greatly impaired. He was accustomed, even in his 113th year, to engage lustily in every kind of agricultural labor, whereby he earned his bread; and he had, even then, the strength required to thrash the corn." An added probability is given to the story of Parr's great age, by the fact that his descendants for several generations showed remarkable tenacity of life. One of his grandsons, Robert Parr, who was born at Kinver in 1633, died in 1757, at the age of 124 years.

#### KING ARTHUR AND HIS ROUND TABLE.

GARDE POINT, III.

What is the real history of King Arthur and his Round Table?

M. S. S.

*Answer.*—During the fifth century the Britons called in the aid of the Saxons and Jutes, to enable them to drive back the Picts and Scots, who were ravaging their country from the northward. This the foreign tribes did, but the remedy in this case was worse than the disease, for these allies were not willing to depart when their assistance was no

longer needed—they chose to remain and to take the fairest portions of the island. Then others of the Saxon tribes came, and taking possession of the country, drove the native Britons into the mountains of the west and southwest. These parts of Britain long remained unconquered. About 495, a Saxon chief, Cerdic, came over. He landed on the southern coast, took the Isle of Wight, with a large part of the mainland. In 519 a great victory over the Britons in what is now Hampshire, gave Cerdic the opportunity to assume the royal title, and he founded the great kingdom of the West Saxons, West Saxe, or Wessex. But Cerdic's further progress to the West was checked by the heroic resistance of Arthur, Prince of Cornwall. This monarch, intrenched with a band of followers in the rugged Cornish hills, successfully repulsed the Saxon invader. The story of King Arthur and his Knights, as embodied in romance or ballad, is, no doubt, wholly fabulous—"a curious instance of a mythical period interposed between two ages of certain history." But there is good reason to believe that there was a King of Cornwall by this name, and that he did ably defend the British cause against the invaders. The legend says that he overthrew the Saxons in twelve pitched battles, and the localities and circumstances of these battles are given, some of them, no doubt, founded on fact. The Arthurian romances occupy an important part in English literature. They owe their origin to the legendary chronicles of Wales and England, made during the ninth and tenth centuries, these largely founded on floating traditions and ballads current among the people. "The Chronicles of British History," by Geoffrey of Monmouth, who lived in the first half of the twelfth century, undoubtedly embody much truth as well as fiction. All the old Arthurian romances were collected and translated into English—some of them having been originally written in French—by Sir Thomas Malory in the fifteenth century. The Round Table was an enchanted table which was made for Prince Arthur's father, Uther Pendragon, by the magician Merlin. Uther gave it to King Leodegrance, and this King gave it to Arthur when the latter married Guinevere, his daughter. About it King Arthur formed the famous circle of Knights of the Round Table, and with these began the brilliant court, the wonderful series of exploits at home and abroad, and the countless adventures of various heroes, celebrated in legends that have been the subject of poems without number in almost every modern language. The table had seats for one hundred and fifty knights, but three of these were always left vacant.

#### A LEGACY TO QUEEN VICTORIA.

CHICAGO.

Who was it that left, some thirty years or more ago, a legacy to Queen Victoria, and how much was it? Why did the man do it?

M. J. L.

*Answer.*—This bequest, which excited much curiosity and discussion at the time, occurred in 1852. The person who thus testified his contempt for the Scripture injunction against "giving gifts to the rich," was a wealthy gentleman of Chester, England, who had amassed a fortune by diligence and economy. His name was John Camden Neild. He was born in 1789, the son of a gentleman of

Cheshire, who had laid the foundation of a fortune in the business of a goldsmith, and had completed it by judicious investments of his money in real estate. The elder Neild was, however, a very benevolent man, and did much for the poorer classes in his vicinity. The younger Neild was liberally educated at Trinity College, Cambridge, and studied law. He succeeded in 1814 to the whole of his father's property, estimated at £250,000. It was not until he had come into possession of his large inheritance that Neild began to clearly manifest that his ruling passion was avarice. From that time for nearly forty years he lived in the most miserly manner, denying himself nearly all the comforts of life, and gave his whole time and thought to the acquisition of money. He did not, it is true, live in squalor, like some other famous misers, but he adhered to the most rigid plainness in his habits, and though he did sometimes give money for charitable purposes it was always unwillingly, and the donation was always small. When Mr. Neild died, Aug. 30, 1852, his will came to light, and produced a very great sensation. After bequeathing a few trifling legacies to different persons he left the whole of his large property, worth £500,000 (\$2,500,000) to "Her Most Gracious Majesty, Queen Victoria, begging her Majesty's most gracious acceptance of the same, for her sole use and benefit, and her heirs," etc. Two caveats were entered against this will by distant connections of Mr. Neild—he had no immediate relatives—but they were subsequently withdrawn, and the Queen was allowed to take undisputed possession of the property. Her Majesty increased a few of Mr. Neild's bequests, settled some money on two of his dependants for whom he had made no provision, and spent a hundred pounds or so for a stained-glass window to the memory of the eccentric gentleman in the church of North Marston, where he was buried. The rest she frugally added to her own small bank account of a million pounds sterling or so which she had been diligently laying by from her income, in preparation for a rainy day.

#### THE HOOSAC TUNNEL.

ARLINGTON, Wis.

1. Give a history of the Hoosac Tunnel. 2. Which are the longest tunnels in the world?

O. S. BARTLETT.

*Answer.*—1. The Hoosac Mountain stretches across the western part of Massachusetts, and forms a natural barrier between that State and New York. How to make a direct line of communication between these neighboring States was a problem that it took half a century to solve. At the point chosen for the excavation of the tunnel the top of the ridge is 2,500 feet above the level of the sea, and is approached on the east by the valley of the Deerfield River, and on the west by the Hoosac River, a tributary of the Hudson. These valleys begin not more than five miles apart, and thus allow railways to reach the tunnel by easy grades. As early as 1825, Commissioners of the Legislature reported in favor of tunneling the Hoosac Mountain for a canal, but nothing was done about it and in 1841 a railroad going over the mountain was completed, and the tunnel project was abandoned. The building of a tunnel, however, was embraced



in the plan of the Troy and Greenfield Railroad, which was incorporated in 1848, but no work was done on it for some years, owing to the difficulty of obtaining assistance from the State. In 1854 the State Legislature passed an act providing for a loan of credit to the amount of \$2,000,000 for the construction of the Hoosac Tunnel, but the gift was hampered by conditions which made it not directly available by the company, and thus the work was greatly hindered. Several contracts were made for the excavation of the tunnel, but all fell through by failure of the company to meet payments when due, and the work was not begun with vigor until 1857. It was then carried on until July, 1861, up to which time the State had advanced nearly \$800,000 for the work, but as the State officials then refused to longer certify the bills of the contractors, work was suspended, and the project was entirely abandoned by the railroad company. In 1862 the State assumed control of the work, and appointed Commissioners to supervise it; these found serious defects in the tunnel plan, and recommended important changes. Work was begun again in December, 1863, but so slowly did it proceed that the Hoosac Tunnel became to the people of Massachusetts a symbol of all impossible and unattainable results. Dr. Oliver Wendell Holmes, in a poem on "Signs of the Millennium," gives as one of these the day—

When the first locomotive's sound,  
Thrills through the Hoosac Tunnel's bore."

But the second veritable epoch in the history of the enterprise may be said to date from 1868, when the State decided, after much discussion, to have the work completed immediately. The contract was then awarded to the Messrs. Shanly, of Canada, who vigorously prosecuted the work day and night, and on Thanksgiving Day, Nov. 27, 1873, the laborers advancing from both sides met, and light was admitted through the tunnel. It was completed in March, 1874, and trains were running through it by the following September. The length of the tunnel is 25,031 feet or four and three-quarter miles. It is 26 feet wide, and varies in height from 23 to 26 feet. The grade allowed is 26 feet to the mile during the entire distance from each portal to the central shaft, making the interior summit more than 60 feet higher than the ends. There is a central shaft in the tunnel which occasions sufficient draught to ventilate it quite effectually. The entire cost of the tunnel is estimated at \$10,000,000. 2. The longest tunnels in the world are those through the Alps. Of these the Aarberg is six and one-half miles long, the Mont Cenis seven and three-quarter miles, the St. Gothard nine miles and a quarter, while the Simplon tunnel, now in process of construction, is to be twelve and a half miles long.

#### THE HENNEPIN CANAL

CHICAGO.

Tell something about the Hennepin Canal. When was the plan proposed, and when is it likely that this work will be begun? Give the route of the projected canal.

L. M. GREENE.

Answer.—The plan of making a waterway from the bend of the Illinois River at Hennepin to the Mississippi River was first proposed in 1866 by a

surveyor who had investigated the route. The line was surveyed in 1870, but nothing was done about it. In 1882 the project had so far assumed definite shape that a survey of the route was provided for by an act of Congress. Since then a bill for the appropriation of money needed to begin the actual excavation of the canal has been before each session of Congress, but has not yet been carried through, owing to a very unreasonable opposition on the part of some members from other States—unreasonable because the construction of the line would be an undoubted advantage to the entire commerce of the West and Northwest. The Hennepin Canal, as projected, begins in the Henry Pool, twelve miles west of LaSalle, rising 205 feet to the summit in eighteen miles; at the twenty-sixth mile a navigable feeder thirty-seven miles long reaches to the Rock River at Dixon. From the feeder junction two lines have been surveyed; the Marais d'Osier line, the most northerly, and somewhat the shorter line, and the Rock Island line, which follows a course some miles south of the other. The Marais d'Osier line extends northwest from the junction to the Mississippi above the Rock Island Rapids, near Albany. The descent from the summit is seventy-five feet and the distance sixty-four miles from the Illinois. The Rock Island route leaves the main line near Green River crossing, leading west to Rock River, which is followed by slack-water to near the mouth. The descent is 101 feet and the distance seventy-seven miles from the Illinois. The estimated cost of construction by the Marais d'Osier Route, is \$5,811,868; by the Rock Island route, \$6,709,836.

#### THE HIGH TIDE ON THE COAST OF LINCOLNSHIRE.

TOWNSEND, MASS.

1. Is there any mention in history of the high tide on the coast of Lincolnshire recorded in Miss Ingelow's poem of this name? 2. What is meant by "The Brides of Enderbury"? Is there any such ballad or rhyme? 3. What is the meaning of the word "Cusha," used in several places? C. LAMB.

Answer.—1. The coast of Lincolnshire, being low, is frequently invaded by high tides. Embankments have been built at a number of places to keep out the sea. During storms the sea has more than once forced its way through the banks, to the great injury of the surrounding country. In the year 1571 there was a very remarkable tide. It was called a "stolen tyde;" that is, a tide which was not brought about by a storm, but rose in calm weather; then, sweeping away the sea-wall by its force, it flooded the entire coast without warning. Miss Ingelow, therefore, had historical basis for the idea of her beautiful poem. 2. The church whose bells are alluded to in the poem, as rung to alarm the neighborhood, was the Church of St. Botolph, which was founded there about the fifth century by a Saxon monk named Botolph. The town which grew up around this church was called Botolph's town, which became contracted into Botos'ton, and later to Boston. Jean Ingelow, the poet, was born in old Boston, under the very shadow of the tall tower of Boston Church. As a child she loved to watch the boats and ships on the river Witham—the old name of this river was Lindis—on which Boston is situated, and the rising of the tides. No doubt the

allusion to the ringing of a particular chime on the bells was founded on fact, but the name given to this tune in the poem seems to have originated in the young poet's imagination, and the bells referred to were long since removed from the tower of St. Botolph's Church.

"The old mayor climbed the belfry tower,  
The ringers rang by two, by three;  
Pull, if ye never pulled before,  
Good ringers, pull your best," quoth he.  
Play uppe, play uppe, O Boston bells!  
Play all your changes, all your swells!  
Play uppe the "Brides of Enderby."

The question as to this reference to the "Brides of Enderby" has often been asked, as it has been supposed to be an old ballad or air. In 1865, when the people of Boston were about to put in a set of carillons in their famous tower, the Flemish bell-maker was instructed to provide for the setting of the "tune of Enderby" on the barrels. Miss Ingelow was asked where the air could be found, to which she replied that it had no existence that she knew of except in her fancy. She was then requested to compose a tune for the name, a task which she properly declined to attempt. A local music-master, however, undertook it, and the air which he produced was tried on the bells, but was found unsuitable for them, and therefore rejected. 3. The word "cusha" is an exclamation, an onomatopoeic word made to imitate the sound of the call to the cows, the "milking song," with which every one living in a dairying district is familiar:

"Cusha! Cusha! Cusha!" calling,  
Ere the early dews were falling,  
Far away I heard her song.  
"Cusha! Cusha!" all along:  
Where the reedy Lindis floweth,  
Floweth, floweth,  
From the meads where melick groweth  
Faintly came her milking song.

#### AMERICAN ASSOCIATION FOR ADVANCEMENT OF SCIENCE.

Give some account of the "American Association for the Advancement of Science," and tell its history and its objects. RADNOR, Ohio.  
F. J. MERZ.

*Answer.*—The society known as the American Association for the Advancement of Science has for its object the encouragement and assistance of research in every department of knowledge. The association was founded in 1840, as a geological society, under the Presidency of the well-known Professor Hitchcock. Its name was soon after changed to the "American Association of Geologists and Naturalists," and in 1847 the present title was adopted. The society was small then and attracted but little notice. During the civil war no meetings were held. After the war the work of the association was resumed. It soon began to win public appreciation. The membership of the society largely increased, and its researches took wider scope. It may now be truthfully claimed that in the breadth and thoroughness of its work, as evidenced by the papers read at its annual meetings, it is surpassed by no scientific association of the Old World. The work of the society is divided

into eight sections, as follows: A, mathematics and astronomy; B, physics; C, chemistry; D, mechanical science and engineering; E, geology and geography; F, biology; H, anthropology; I, economic science and statistics. There was a section G, allotted to microscopy, but this was, in 1884, merged in section F. Each section has a president and other officers, to whom the supervision of investigation and the allotment of papers is intrusted. Membership in the society can be secured by any one interested in science on payment of a small fee, this membership entitling one to all the publications issued by the society.

#### THE CAMPBELL FAMILY.

GLENN, Mich.  
Give history of the Campbell family, of Scotland.  
W. V. M.

*Answer.*—The historic Scotch family bearing the surname of Campbell—pronounced Cam-elli—is known in works on genealogy as the Argyle family, from the title borne by its members. This family is in antiquity beyond ordinary record, and is said to be descended from the ancient kings and chiefs of Argyle. From one of these, named Diarmid, the clan is believed to have derived the name of Scoll Diarmid, by which it was known in the Gaelic. The ancient representatives of this family were the proprietors of the lands of Lochow, or Lochawe, a district in the western part of the county of Argyle. In the reign of Malcolm Canmore the heiress of the house married an Anglo-Norman gentleman, by the name of Campbell, and thus Campbell became the name of the family in its main line as well as in its numerous branches. Among the Scottish knights and barons summoned to the council of Berwick in 1291 was Sir Colin Campbell, Laird of Lochawe, then the head of the Campbell clan. His son, Sir Neil Campbell, was a strong supporter of Robert Bruce, whose daughter he married, and the son of this royal alliance, Sir Colin Campbell, received large grants of land in Argyleshire from King Robert and his successor, and the Campbells soon came to be one of the most wealthy and formidable clans in the West Highlands. The grandson of Sir Colin, Sir Duncan Campbell, was raised to the peerage as Lord Campbell in 1445, and was made Chancellor of Scotland by James II., the fourth of the Stuart kings. The grandson of this peer, another Sir Colin, was created Earl of Argyle in 1457, and by his marriage with the heiress of the Lorne estates, added the distinction and heritage of that family to his own honors and wealth, being authorized to add the designation of Lord Lorne to his other titles. His grandson, Sir Colin again, was created hereditary Lord Justice General of Scotland. The Earls of Argyle became zealous supporters of the cause of the Reformation in the sixteenth century, but though they took considerable part in public affairs, the first to achieve much historical notoriety was Archibald, the eighth earl, who was born in 1598. He succeeded to the earldom in 1638, and was made Marquis of Argyle in 1641. From temperament and training the Marquis came to be a most zealous adherent of the stern religious party of Scotland, known as the Covenanters. He headed the army against Mont-



rose, who was the leader of the Royalist forces in Scotland, but at Inverlochy, Feb. 2, 1645, his followers were almost annihilated by Montrose's superior military ability. The Covenanters, however, were not in favor of the extreme measures of Cromwell, and in 1646, Argyle, with two other Scottish peers, went to London to intercede with Parliament for clemency in the treatment of the King, and also to ascertain, secretly, whether a Scottish rising in Charles' favor would be supported by his English adherents. Both efforts ended in failure. After the execution of Charles the government of Scotland was administered by Argyle and the other leaders of the Covenanters. They were in favor of the regal succession, proclaimed Charles II. King in the Parliament, in February, 1649, and when the young man came over to Scotland in the following year, met him with much enthusiasm. Jan. 1, 1651, at Scone, Argyle placed the crown on the young monarch's head. For all this, and in spite of the fact that Argyle never would take the pledge of allegiance to Cromwell, even after the Royalist party in Scotland had been overcome and the young King forced to flee for his life from the country, as soon as Charles II. was restored to power, one of his first acts was to sign the death warrant of Argyle. May 27, 1661, this peer was executed at Edinburgh, meeting his fate with dignity and Christian fortitude. His son, Archibald, the ninth Earl of Argyle, was early distinguished by great personal bravery in the battlefield, a quality in which his father was deficient. He made himself so obnoxious to Cromwell that the protector specially exempted him from his "act of grace," which, in 1654, was extended to his Scottish opponents. Subsequently, however, after much persecution, he nominally submitted to the Parliament. He was received into especial favor by Charles II., as an offset to the execution of his father. He had repeated difficulties with the Scottish Parliament, however, and in 1681, as he refused to subscribe to the "test" framed by that body except under conditions, he was declared by it a traitor and condemned to death. Through the efforts of his devoted wife, he escaped from Edinburgh Castle in disguise, and fled to Holland. In 1685, he returned to aid the rebellion of Monmouth, was taken prisoner, hastily condemned, and beheaded June 30, 1685. His estates were declared forfeited, but as his son Archibald was one of the deputation sent by the Scottish Parliament to present the crown to William, Prince of Orange, the latter subsequently restored to him his lands and honors, and furthermore created him Duke of Argyle and Marquis of Lorne. His son and successor John, the second Duke of Argyle, was the ablest representative the family ever had. He was handsome in person, brave and honorable, and qualified equally for civil and military distinction. As a royal commissioner in 1705, he had a most influential share in bringing about the act of union between England and Scotland. For his part in this important measure he was made a peer of England with the title of Earl of Greenwich. As a soldier he greatly distinguished himself in the continental wars of the time, and on returning home was made

commander-in-chief of the forces in Scotland. In 1715, he overthrew Mar's rebellion, and in 1718 received the title of Duke of Greenwich. Though able as a statesman and most courageous as a soldier, and so noted for his benevolent disposition and courteous manners in private life that he was universally known among the Scottish peasantry as "the good Duke of Argyle," this peer was not without faults. At first a Whig, he became a Tory for the purpose, it was thought, of gratifying his envy of Marlborough, but subsequently, believing that the ministry had not treated him with sufficient generosity, he became a Whig again. At first a follower and friend of Walpole, in 1739 he headed the opposition in Parliament against him. Indeed, it has been said with much truth of this great peer, that "his political career was one long course of inconsistencies." As this Duke left no male issue, his English titles became extinct, but his daughter Caroline was created Baroness of Greenwich in her own right, and his patrimonial estate and his Scottish titles devolved upon his brother Archibald, as third Duke of Argyle. This duke built the modern castle of Inverary, one of the finest buildings in Scotland. Duke Archibald died in 1761 without issue, and the titles and estates then passed to his cousin John, son of the Hon. John Campbell, of Mamore, second son of the Earl who was beheaded in 1685. This duke John was succeeded by his son John as fifth duke, who was also made a peer of England as Baron Sundridge in 1766. This duke married in 1759 the widow of the Duke of Hamilton, one of the famous "Gunning sisters" whose beauty had set all the fashionable society of London wild some years before. His first son died in infancy, and the second, George William, became sixth Duke of Argyle, and, dying without issue in 1839, was succeeded by his brother, John Douglas. This peer died in 1847, and the present Duke of Argyle, George John Douglas Campbell, succeeded him. This gentleman has occupied several high official positions, was a member of the British cabinet under Lord Palmerston, and again under Mr. Gladstone. He has also written several works on scientific and religious subjects. This peer has a family of five sons and seven daughters. His eldest son, John Douglas, Marquis of Lorne, married the Princess Louise in 1871, and served as Governor General of Canada from 1878 to 1883. Since the early part of this century the ducal title has been always spelled Argyll.

#### LEIF ERICKSON.

Give an account of the unveiling of the Leif Erickson statue at Boston, and tell what is known of this explorer and his discoveries. J. COV.

*Answer.*—Oct. 29, 1887, a statue to the Norse explorer, Leif Erickson, was unveiled in Boston. The statue was the work of Miss Annie Whitney, a young woman who has shown much talent in sculpture. It is said that Ole Bull, the great violinist, first suggested the erection of a statue to the Norsemen of the eleventh century, who are believed to have been the first to discover America. The statue is thus described: Upon the head is a morion or open helmet, from beneath which flow the bushy locks of the Norseman. He wears a cloth

tunic with short sleeves, and over this a shirt of ring or chain mail. The figure, which is belted and wears a breast-plate, is a fine one, full of the spirit of youthful vigor and eager adventure. The attitude is meant to indicate that the voyager has just clambered from his boat to the shore of the new world. As to what is known of Leif Erickson, that is but little, though there is good warrant for believing that he was the first actual discoverer of America. The continent had been seen in the year 986 by a navigator named Herjulfson, who, sailing from Iceland to Greenland, was caught in a storm and carried southward, probably as far as Labrador. He attempted no landing, but on his return told wonderful stories of great islands, covered with forests, which he had seen. These stories reached the ears of Leif Erickson, an Icelandic captain already famous for his daring, who, resolving to know the truth about this wonderful country, set sail upon a voyage of discovery early in the year 1001. In April or May he reached the coast of Labrador. There he landed with his companions and explored the coast. Then he sailed along the shore southward and again landed. He found the country very attractive and the climate mild, and he was in no haste to return. It is believed that he went southward as far as Massachusetts, and that the explorers landed there, built houses, and spent the winter. As they found great numbers of wild grapes in their explorations inland, they gave the country the name of Vinland. In the spring they sailed back to Greenland with a ship's load of tree trunks, and thence to Iceland. Subsequent exploration of the new country was attempted by the Norsemen, and an effort was made at colonization, but it was not successful. After some years, therefore, the Norse sailors made no further attempts to visit the new world, and but for the fact that records were kept by Icelandic historians of these early voyages, they would have been wholly forgotten. Now, indeed, they are remembered as matters of curious history only, for they had no influence on subsequent events in either hemisphere.

#### RELATIVE NUMBERS OF THE SEXES.

CHICAGO.

What are the relative numbers of the sexes in the different countries of the globe? Where do men predominate and where do women?

R. THEOBOLD.

*Answer.*—There is a general equality in the number of the two sexes when the entire population of the globe is taken into account, but still each country has a sexual proportion of its own. In Europe there was in early times said to be a greater excess of women in the northern countries than in those of Middle Europe and the East, and this excess still exists. In some of the countries of the Orient women are in the minority. Taking Europe as a whole, however, the number of women is definitely in excess of that of the men, and this difference appears to be increasing. It was very great after the Napoleonic wars, then the numbers gradually tended toward equality and nearly reached it (1847 to 1850, 1,009 to 1,000); then they diverged again, and in 1870 there were 1,037 women to 1,000 men. The phases of increased difference are generally observable after wars, and

latterly appear to be the result partly of the enormous emigration which has taken place to other quarters of the earth. On the other hand, in America, as a whole, and in Australia and Africa, to which countries emigration with its preponderance of males is tending, the men are in excess, and the excess is increasing with the constant arrival of new parties of immigrants. In spite of all this, however, it is true that whether we take into account the black, white, red, or mixed races, we find over the earth no wide difference between the numbers of the sexes.

#### RED DURHAM CATTLE.

DILLON, M. T.

Give a history of Red Durham cattle.

J. KIRKPATRICK.

*Answer.*—Probably more of the Red Durham breed of cattle are raised in the United States, than any other of the distinct high-breed varieties. They are properly known as short horns. The original stock of these cattle came from Durham County, England. In that county and the adjoining one of York, a famous breed of short horns, known there as the Teeswater breed, has been raised for nearly two centuries. This stock was improved by crossing with the Galloways. About the close of the seventeenth century, it is said, a number of bulls were brought into Durham from Holland, and the blood of Dutch cattle was then mingled with that of the Teeswater stock. This race is susceptible of breeding for the production of milk, as several families have shown, but it is generally bred in this country for the butcher, and as a meat-producing animal it certainly excels.

#### THE RUSSIAN SUGAR TAX.

CHICAGO.

Give an account of the sugar tax in Russia. Is it still maintained there?

STUDENT.

*Answer.*—In 1850 a protective tax of some 6 cents per pound was imposed by the Russian Government on imported beet sugar to stimulate the manufacture of the product in that country. As this tax was large enough to be virtually prohibitory on the foreign product, the sugar-makers of Russia made good profits and the industry in that country was actively stimulated. In 1881 they produced 576,000,000 pounds. This was quite as much as the home market demanded and the impetus given to production should have been checked at that point. It was not, however; further capital was pushed into the business and in 1886 the total output of the beet-sugar factories of Russia was nearly 900,000,000 pounds. Meanwhile the government was besought to do something to buoy the market by assisting the manufacturers to export their surplus. For four years (1882-86) some 72,000,000 pounds were exported annually, and on this the government granted a bonus of about 2 cents per pound. This did little good, for the foreign markets were depressed, and exporting, even with the government bounty, became no longer profitable. The manufacturers then appealed to the government to establish a "normirofka," or normal price, by legally restricting the production of sugar until the prices of 1881 were restored. A measure for this purpose was adopted by the Imperial council in 1887, but the Czar refused to sanction it. The duty still remains, but the men-



ufacture of sugar is not regarded with as much favor as before, and an attempt is being made to bring about an agreement of manufacturers to restrict the oversupply of the product.

#### UNITED STATES DEBT—MONEY IN CIRCULATION.

KINGMAN, Kan.

1. Is there any of the public debt now due and payable? 2. How much money of all kinds is now in circulation in the United States?

I. N. HAYES.

*Answer.*—1. The debt of the United States may be divided into three parts: (1) The interest-bearing debt, consisting of bonds of various denominations, which have an aggregate outstanding amount of \$1,041,761,742, but none of which become due until 1891, though there was in 1887 a total upon these issues of \$1,662,617 interest overdue and not yet called for; (2) the debt on which interest has ceased since maturity, which is a total of overdue bonds outstanding that have never been presented for payment, including \$3,163,955 principal and \$178,392 interest; (3) debt bearing no interest, which includes old demand notes, the legal-tender notes, certificates of deposit, and gold and silver certificates, a total of \$634,254,815. The entire debt, principal and interest, Jan. 1, 1888, was \$1,691,360,705. 2. In November, 1887, there were outstanding in National Bank notes \$271,675,329, in legal-tender notes \$347,681,016, and in silver certificates which enter into circulation and form part of the paper money aggregate, \$145,543,150, making a total of \$764,899,495. Nearly two-thirds of this is supposed to be constantly in circulation outside of the banks. At the same time, the total gold coin of the country was estimated at \$624,112,300, of which \$372,636,022 was reported to be in the treasury and the banks; the silver coin at \$366,405,719, of which the banks and the treasury held \$258,491,108. Including the treasury balance of nearly \$500,000,000, there is held on deposit in the treasury and the banks a total of over \$800,000,000, and the probable total of money in circulation is some \$820,000,000.

#### TO MAKE A NOON MARK.

HAMBURG, Iowa.

How can I make what is called a noon mark? How often will the sun agree with the clock on this mark during the year?

INQUIRER.

*Answer.*—A noon mark is a line drawn due north and south, and is so called because a pin fixed upright on its southern extremity will cast a straight shadow along the mark at exactly 12 o'clock m., solar time. But this time of the sun will agree exactly with the mean or clock time only on the 21st days of March and September of each year. A simple way to place a noon mark, which is more correctly called a meridian line, is as follows: Set a stake perpendicular eight or ten feet high, and another say ten feet north and in a direct line with the north or polar star. The line between these stakes will be due north and south, and when the shadow cast by the southern one falls directly toward the other on either of the days named above (or within a day or two thereof) it will be just 12 o'clock. If a watch or clock is set by the straight noon mark on March 21, and keeps perfect time, it will be found on succeeding days to vary a little from the solar time as shown by the noon mark, the difference increasing each day until it amounts

to about fifteen minutes. Then it begins to grow less daily until Sept. 21, when clock and solar time agree again. The difference between clock and solar time is given for each day in most almanacs, and by consulting one of these a watch or clock may be regulated to agree with the sun every day in the year.

#### THE COBDEN CLUB.

PURDUE, Neb.

What is the origin and what the aim of the Cobden Club?

T. H. OLDFHAM.

*Answer.*—The Cobden Club was organized for the propagation of the principles that were recognized as those of Richard Cobden, the English statesman. That for which he labored for years was free trade, and when Sir Robert Peel was finally driven from power he took leave of his office in a speech which contained an acknowledgment that the repeal of the corn laws was chiefly attributable to Cobden. Cobden died in London, April 2, 1865. The club which bears his name held its first annual banquet July 21, 1866, with Mr. Gladstone in the chair. The club has exerted a large influence in spreading free-trade literature over the world. Among its earlier acts was to elect several distinguished Americans as honorary members. Some of these honorary members were chosen not because they held free-trade views, but on account of their character and standing at home and abroad. Among them was James A. Garfield.

#### GENERAL BEN HARRISON.

COLCHESTER, Ill.

Was General Harrison ever beaten in Indiana by "Blue Jeans" Williams?

THOMAS KIPLING.

*Answer.*—The Republican State Convention of Indiana was held at Indianapolis Feb. 22, 1876, and Godlove S. Orth was nominated for Governor. On April 19, in the same city, the Democratic State Convention was held, and the two strong candidates for Governor were Franklin Landers and William S. Holman, but as their supporters were pretty evenly divided, James D. Williams was nominated. On Aug. 2 Mr. Orth withdrew, declining to run because, he said, he felt satisfied he would not receive the united support of the Republican party. The Republican State Central Committee met on Aug. 11, and filled the vacancy on the ticket with the name of General Harrison. At the election on Oct. 10 Mr. Williams had a plurality of 5,084 over General Harrison. This defeat was not and is not considered anything against General Harrison, because of the time and circumstances under which he became the candidate.

#### NINTH NEW YORK CAVALRY.

SCHUYLER, Neb.

Give a brief account of the Ninth New York Cavalry.

A. P. BROWN.

*Answer.*—The Ninth New York Cavalry was organized at Albany in the fall of 1861, its muster in being completed Nov. 19. Its companies were raised in the counties of Chautauqua, Cattaraugus, Wyoming, Rensselaer, Washington, St. Lawrence, and Clinton. Its first engagement was that of Cedar Mountain, fought Aug. 9, 1862, under General Pope. Its subsequent important battles were Gainesville, second Bull Run, Chantilly, Antietam, Gettysburg, Rappahannock Station, Opequan, the Wilderness, Cold Harbor, Mechanics-

ville, and the fight before Petersburg that closed the war. In November, 1864, when the time of the regiment expired, a part of the men were mustered out. The re-enlisted men and some recruits were consolidated with the Fourth New York Cavalry into a new organization, which, under the name of the Ninth Cavalry, was retained in service until July 17, 1865. The first commanding officer of the regiment was Colonel John Bardsley, who resigned April 8, 1863. His successor was William Sackett, who died June 10, 1864, of wounds received at Trevillian Station, Va., and who was followed in office by Colonel George S. Nickols, who held his position until the muster out of the regiment.

#### RUMPELSTILZCHEN.

Who was Rumpelstilzchen, and what does the name mean? MADISON, Kan. L. M. B.

*Answer.*—Rumpelstilzchen is the hero of a popular German fairy tale. He was an irritable, deformed dwarf. A miller's daughter who was very skillful with the distaff had been commanded by the king to spin straw into gold. The magic of Rumpelstilzchen enabled her to perform the task, on condition that she would give him her first daughter for his wife. The miller's daughter married the king, and her first child was a beautiful daughter. She grieved so bitterly over the fate that her promise had entailed on the child that the dwarf, who knew by his supernatural power what her state of mind was, came to her and offered to absolve her from her promise if within three days she could find out his name. The first day passed, and though the queen made inquiry of every one who she thought might have seen or heard of the dwarf, she could not find out the secret. The second day passed with no better result, but on the third day one of the queen's servants, passing through the wood, heard a strange voice singing, as if to itself, the words:

"Little dreams my dainty dame  
Rumpelstilzchen is my name."

He hastened and told the queen, who rightly surmised that this was the name of the dwarf that she feared. She greeted him by his title when he came to her that evening, and he was so enraged that he rushed from her presence and killed himself. Like many other popular tales, there seems to be no particular meaning or lesson to this story. The meaning of the name is somewhat obscure, but may be freely translated as "Little Mischief Maker."

#### THE POSTAL BUSINESS.

According to the existing postal rates, in what States is the system self-supporting, and in what States do its expenditures exceed its receipts? Taking all the States together, how does the business stand? BATAVIA, Ill. J. MERR.

*Answer.*—The postal business has shown a large deficiency ever since the late reduction in rates, but the deficiency is growing less, and it is hoped that the business will, in a few years, become self-supporting again. The operations of the years 1885 and 1886 after the reduction took effect, resulted in a cash deficiency of nearly \$7,000,000 each year. For the fiscal year 1887, this deficiency was reduced to \$4,000,000. The total revenue for 1887 was \$48,837,609.39, against \$43,948,422.95 for 1886,

and 42,560,843.83 for 1885. The expenditures in the same time have increased from \$49,534,788.65 in 1885, to \$50,854,109.12 in 1886, and \$52,814,113.61 in 1887. There were but ten States in which the postal business was run at a profit in 1887. These were Connecticut, Delaware, Illinois, Massachusetts, Michigan, New Hampshire, New Jersey, New York, Pennsylvania, and Rhode Island.

#### NINETY-SECOND NEW YORK INFANTRY.

ONTARIO, Wis.  
Give history of the Ninety-Second New York Infantry, with names of its regimental officers. E. P. WAIT.

*Answer.*—The Ninety-second Infantry was organized at Potsdam, N. Y., with men drawn from St. Lawrence and Franklin Counties. It was mustered in Jan. 1, 1862. It was sent immediately on to join the Army of the Potomac, then moving toward Richmond. It had a share in the battles of Williamsburg, Fair Oaks, Chickahominy, and others. When recalled from the peninsula, it formed a part of the reserve during Pope's campaign. Was attached to the Fifth Corps, Army of the Potomac, and shared in the subsequent movements of that division. It was mustered out at the close of its term, Jan. 1, 1865. The commanding officers of the regiment were: Colonel Josiah Sandford, who resigned May 10, 1862; then Lewis C. Hunt, promoted to the position of Brigadier General Nov. 29, 1862; Major Thomas S. Hall (acting Colonel) till Jan. 1, 1863; Lieutenant Colonel Hiram Anderson (acting) till killed at Cold Harbor June 1, 1864; Lieutenant Colonel Truman A. Merriman till discharge of the regiment. The officers of the regiment at muster out were: T. A. Merriman, Acting Colonel; Cyrus O. Hubbell, Quartermaster; Alexander Edmeston, Surgeon.

#### FIRST BOARD OF TRADE REGIMENT.

LENA, Ill.  
Give a brief sketch of the Seventy-second Illinois Infantry, known as the "First Board of Trade Regiment." INQUIRER.

*Answer.*—The Seventy-second Regiment Illinois Infantry was organized at Chicago as the first regiment of the Board of Trade in this city. One company, calling itself the "Hancock Guards," was mustered July 23, 1862, and exactly one month afterward the entire regiment was complete and ready for muster. It was sent immediately to Cairo, whence it was sent to Columbus, Ky., remaining there on duty till the following November. The regiment was then attached to General Quimby's command, and removed to a camp near Memphis. In the spring it joined Grant's army in its march against Vicksburg. It was in the battle of Champion Hills and Big Black River, and in all the other labors of the siege was actively engaged. After the surrender, this regiment was sent to Natchez, where it was on duty until Oct. 17, when it returned to Vicksburg. At the latter point it was kept on provost guard duty for an entire year, only taking part in two minor expeditions. Oct. 30, 1864, the regiment was ordered to join Sherman, then about to set out on his "march to the sea," but the order was changed, and it was detained in Tennessee to aid in the overthrow of Hood's army. In February it set out for New Orleans, and thence with the army proceeded against Mobile. After the capture of the latter city the Seventy-second went into camp at



Montgomery, Ala., then in May went to Union Springs, and from the latter point, in July, was started on its homeward journey. It was mustered out at Vicksburg, Aug. 6, 1865. The Seventy-second lost while in service 427 men and officers.

#### HISTORY OF RHODE ISLAND.

TEFFTANDALE, N. Y.

Give a history of Rhode Island, its first discovery, its colonial government, and how it came to have two capitals. Give the circumstances of the Dorr rebellion. SUBSCRIBER.

*Answer.*—It is supposed by many writers that the Northmen, under Lief Erickson, were the first voyagers to visit the Rhode Island coast. This was in the year 1001. In 1524 John Verrazani, coasting eastward from a bay which was undoubtedly that of New York, passed up an opening into a large bay which was unquestionably that of Narragansett. There was no settlement here, however, until the coming of Roger Williams in 1636, who had been banished by the Massachusetts colony for heresy. He, with five companions, passed down the Narragansett River, landed on the western bank, bought land from the Indians, and laid the foundations of the Providence Plantation. Other exiles joined the company, and here was established a refuge for all those persecuted for their religious opinions. A similar colony was founded in 1633 by William Coddington and others, the followers of the notable Anne Hutchinson, on the island of Aquidneck. From the latter sprang the towns of Newport and Portsmouth. A third settlement was made at Warwick during 1643, and that year Williams went back to England and obtained a patent for the united government of the three settlements. This patent continued in force until 1663, when a charter was obtained from Charles II. incorporating the colony of Rhode Island and Providence Plantations, and this was the only constitution that Rhode Island had for 180 years, or until 1843. In January, 1687, Sir Edmund Andros seized the charter of the colony and made it a mere dependency on New York, but his usurpation was brief. In 1689 he was deposed and sent to England as a prisoner. Rhode Island took an important part in the war against the French and Indians in 1754-56. In the Revolutionary War, the first naval squadron against the enemy was fitted out and sailed from Providence. In December, 1776, the British took Newport and occupied it until late in the year 1779. It was then protected by a French army until the close of the war. Rhode Island was the last of the thirteen colonies that accepted the Constitution of the United States, her assent being given on May 29, 1790. Under the colonial charter still in force, the right of suffrage was restricted to owners of a freehold worth \$134, or renting for \$7 a year. This property qualification, with the unequal distribution of representation caused thereby, was the source of much dissatisfaction. In 1840, Providence, with only four representatives, had 23,171 inhabitants, while Newport, with six representatives, had 8,333 inhabitants. Of the 72 representatives elected in that year, 38 were chosen from towns having only 29,026 inhabitants, while the remaining 34 were from towns having 79,804 inhabitants. As the Legislature would not

reform these matters, suffrage associations were formed, and these holding a mass convention at Providence, July 5, 1841, called a convention to frame a new constitution. Delegates were elected Aug. 28, and Oct. 4 the convention assembled at Providence. A constitution was framed and voted on by the people in December, and it was claimed that it received not only a majority of the votes from all the adult male citizens of the State, but also a majority from those entitled to vote under the charter. An election for State officers under this constitution was held April 18, 1842, when Thomas W. Dorr, the most prominent leader of the movement, was chosen Governor. The attempt of this government to organize at Providence and seize the reins of power was resisted by the State Government under Governor Samuel King. May 18 some of Dorr's followers attacked the arsenal at Providence, but dispersed on the approach of a military force. A large gathering at Chepachet, June 25, for the purpose of organizing further resistance, was also dispersed by the appearance of the State militia. Mr. Dorr was soon after arrested, and the whole affair was over. Meanwhile legal steps for the formation of a new constitution had been going on. The Legislature had called a convention for the purpose in February, 1841. The delegates were elected in August, the convention assembled in November and adjourned to February, 1842, when they agreed upon a constitution, which was submitted to the people in March and rejected. In June the Legislature called another convention, which in November agreed upon a constitution, and this, laid before the people, was ratified almost unanimously. It went in effect in May, 1843. The leader of "Dorr's rebellion" was tried, convicted of high treason, and in June, 1844, was sentenced to imprisonment for life. In 1847 he was released under an act of general amnesty, and in 1851 was restored to his civil and political rights. In 1854 the Legislature passed an act annulling the judgment against him, but the Supreme Court declared this act unconstitutional as an assumption of judicial authority by the Legislature. The constitution of 1843 removed the property qualification from native male citizens, but continued it for those of foreign birth. This restriction was abolished by a constitutional amendment adopted in April, 1888. The two capitals of Rhode Island are a survival of the time when the colony was made up of two distinct settlements. Neither would consent to allow the other a monopoly of the honor of the Assembly meetings, and so the matter was compromised by holding alternate sessions in the two places. The custom has continued to the present day, simply because neither capital will consent to an abrogation of its ancient rights.

#### THE MILKY WAY.

RUSH CENTER, Kan.

Please give an explanation of the milky way, and tell why it does not rise and set, as other heavenly bodies do? INQUIRER.

*Answer.*—Every one knows, of course, that the sun and stars do not rise and set, but that they have this apparent motion because of the revolution of the earth upon its axis. This apparent motion the milky way has in common with all the

heavenly bodies, as any observer may ascertain, by watching and noting that part of it is continually disappearing below the western horizon, while an additional part of the belt is coming into view in the east. Careful observation is all that is needed to show that the common delusions concerning the galaxy, that it does not rise and set, and that it changes its direction with the season of the year, are founded on pure ignorance. All of the milky way that can be seen at one time has the appearance of a white, cloud-like arch resting upon opposite points of the horizon. The altitude of the arch depends upon the position of the celestial sphere with reference to the observer. If the earth were transparent, so that we could see the whole sphere of the heavens at once, we would perceive the galaxy to be a complete belt extending around it. The earth's movement on its axis and in its orbit brings into view in the Northern Hemisphere during the year a large part of the belt, but part of it is so near the South Pole that it is always below our horizon. The position of the galactic belt has not changed from the earliest records of astronomical observation, but its apparent changes are due to the different appearance of different parts of the belt. It is not of uniform width, and in the constellation of the Scorpion opens out into two great branches, one faint and broken, the other bright and continuous, and these remain distinct from each other for nearly 150 degrees. It has also a number of smaller branches and fan-like expansions, one subdivision near the double star Antares, being nearly at right angles to the main stream. The telescope shows that the milky way is made up of countless stars, too minute to be separately visible to the naked eye.

#### DAVID DAVIS.

Give a brief biography of Hon. David Davis, of Illinois. When and where did he die?

#### CONSTANT READER.

*Answer.*—David Davis was born March 5, 1815, in Cecil County, Maryland, the descendant of a pioneer Welsh family. He received his collegiate training at Kenyon College, Ohio, studied law, and settled in Bloomington, Ill., for the practice of his profession. He made his entrance into political life in 1844, when he was elected to the State Legislature. In 1848 he was elected Judge of the State Circuit Court, and held the position by re-election until 1862, when he was appointed by President Lincoln as Judge of the United States Supreme Court. Mr. Davis was at this time a strong Republican, was a delegate to the Chicago convention of 1860, and labored zealously for the nomination of Mr. Lincoln. On the Supreme Bench the services of Mr. Davis were most noteworthy and honorable. In 1877 he resigned his Justiceship to accept the office of United States Senator from Illinois, to which he was elected by the Independents (Greenbackers) and the Democrats. His election by the votes of both parties gave to his position in the Senate a unique character. He held himself in all matters wholly above party dictation, and though derided as "the party of one," he occupied his independent stand with a dignity and firmness that commanded the respect of both parties, and no less that of the entire country. As President of the Senate, to

which position he was chosen in 1881, he displayed in a remarkable degree the even judicial quality of his mind. He retired from public life in 1883, returning to his home at Bloomington, Ill., where he died June 26, 1886.

#### SALT.

BELVIDERE, ILL.

Where is salt obtained, and how are the different kinds of salt prepared? Where is salt most abundant?

REV. J. ALBER.

*Answer.*—Salt occurs very abundantly in nature, both in the solid state, as in rock salt, and in solution in sea water, salt lakes, and salt springs; also in smaller quantities sometimes in river water. The origin of rock salt is imperfectly understood. Some beds appear to have been produced by the drying-up of bodies of sea-water cut off from the ocean, while in the cases where the salt forms a perpendicular vein, its origin is less easily explained. Salt lakes are derived either from the partial drying-up of isolated bodies of sea-water, or the evaporation of lakes which are fed by streams passing over beds of salt, and which have no outlet. Salt is rarely, if ever, obtained pure. In rock salt the chief impurities are sulphate of lime, oxide of iron, and clay; besides, there are the chlorides of potassium, calcium, and magnesium, the sulphates of soda and magnesia, and also bituminous matters. In sea-water salt, the salts of magnesia, and sulphate of lime are the principal impurities. All varieties of salt contain very small quantities of bromides and iodides before being purified. The presence of 3 per cent of impure matter renders salt unfit for consumption by man. Beds of rock salt and of brine occur in geological formations of almost every period. Geographically, salt is very widely distributed. Excepting Norway, Denmark, and Holland, European countries are all provided with salt to some extent from domestic sources, and many of them are large exporters of the commodity, especially England, Austria, France, Spain, Portugal and Italy, also Russia and Prussia. The total annual salt product of Europe is probably over 6,000,000 tons. In Asia salt is produced no less abundantly than in Europe. Rock salt is found in Armenia, Persia, and British India, and salt wells, salt lakes, and salt springs in many other places. In Africa beds of rock salt are found in the Sahara, also mountains of salt, and many salt lakes in the central portion. The Hawaiian Islands export the product of their salt lakes. It is found in several countries of South America in great abundance, also in the West India Islands and Central America. The United States is well supplied with salt, twenty-three of the States and Territories having been returned as producers, while seven others possess valuable springs and deposits. The principal saline springs are in Central New York, near Syracuse, in West Virginia and Pennsylvania, in Michigan, and in the States bordering on the Ohio. Rock salt is found only in West Virginia and Louisiana. The separation of salt from brines and sea-water is conducted in three ways: 1. By evaporation through the heat of the sun in shallow reservoirs, principally practiced with sea-water in the southern temperate or tropical regions. 2. By artificial heat, in very long, shallow pans, as in



Cheshire; or in kettles, as at the Onondaga salines.

3. By exposing sea-water to intense cold, the ice formed being nearly pure, and a very concentrated brine being left, which is then evaporated by heat. Different details are necessary in treating the brines of different localities. In the salt factories at Berre, France, the shallow basins for evaporation are placed so that they can be flooded at high tide, and protected by dykes when supplies of salt water are not needed. The water is evaporated by the heat of the sun, being conducted from one basin to another until it remains in the form of a saturated brine, and is then transferred to tables, on which the crystalline crusts soon collect. At a temperature of about twenty-six degrees on the Baume scale about 25 per cent of the entire product is deposited in the form of pure salt. The brine is then removed to another table, where, at a somewhat higher temperature, 60 per cent of the whole is deposited in the form of salt of inferior quality. A third time the brine is used to deposit salt, but the remainder of the salt obtained is not pure, and is not available for any use but that of salting fish. From the salting table the salt is taken and made up into heaps, which are left exposed to the weather for some time in the summer season, and it is then marketed without further preparation. The average price of salt at the Berre salt works is 20 cents for 220 pounds (100 kilogrammes). The evaporating surfaces of the works cover 815 acres, and the annual product is upwards of fifty million pounds. A brief outline of the methods of salt manufacture in Onondaga, N. Y., illustrates those generally employed elsewhere in this country. The brines there contain a small percentage of sulphate of lime, the chloride of calcium and magnesium, traces of carbonic acid and oxide of iron, and about 17 per cent of salt. The brine is first pumped into shallow vats, where the iron is deposited and the carbonic acid escapes. It is then evaporated by the sun for coarse salt, or by artificial heat for fine salt. For the first, slow evaporation is used in wooden vats. The brine is drawn from one set of vats to another to aid the process of separating the impurities. In preparing fine salt the boiling is done sometimes in kettles, sometimes in pots, and also by steam heat. The salt is formed in these processes rapidly, and therefore appears in very fine crystals. The character of salt, especially its fineness, depends less on the character of the brine than on the care and rapidity with which the evaporation has been conducted. The practice of adding foreign substances to the brine while boiling, small quantities of glue, resin, or other substances to hasten the formation of the crystals, has been known and sometimes employed for hundreds of years, but the best manufacturers condemn it as injuring the quality of the salt.

## MUSIC PRINTING.

CHICAGO.

Give some information on the subject of music printing and the different processes now used.

READER.

*Answer.*—Music is printed largely from movable types. The first good types for this purpose were cast about 1840. Previous to that time a method of printing was invented in which two impressions were necessary. The lines were

printed first and then the notes upon them, but this did not work well, because of the extra labor involved. Another plan tried was to strike punches into a plate of soft metal and then take stereotypes of this surface. When the white parts had been removed, the rest stood in sufficient relief to admit of printing them. But the manuscript of music is usually set in music types, and this is then reproduced by the stereotype or electrotpe process, thus giving a fine and correct plate for the use of the press.

## STANLEY IN AFRICA.

AVOCA, WIS.

Who sent Stanley to the Soudan, Africa? Why was he sent? Tell what he has done since he left.

S. PARKS.

*Answer.*—Henry M. Stanley was sent to Africa to convey ammunition and other supplies to Emin Bey, a European, who had been appointed by General Gordon as governor of the equatorial province of the Soudan. The reader will find a full account of Emin Bey in Our Curiosity Shop Book for 1887. The relief expedition was fitted out through funds contributed by the Egyptian Government, and also by private persons in England and Germany. King Leopold, of Belgium, also aided the scheme with money, and Stanley was called upon to conduct the expedition because of his thorough acquaintance with Central Africa and its dangers. Jan. 6, 1887, Stanley sailed for Zanzibar. There he procured native assistants, and Feb. 24 the expedition started. It consisted of 9 European officers, 61 Soudanese, 13 Somalis, 620 natives of Zanzibar, 3 interpreters, and Tippu Tib, a famous Arab trader, with 40 of his followers. The majority of these were to go overland to Lake Tanganyika under Tippu Tib, and thence onward to Stanley Falls. Stanley, however, with the others was to go to the mouth of the Congo by sea and then up that river. The two divisions of the expedition were to unite at the Congo Company's station at Stanley Falls, pass from there overland to Lake Albert Nyanza, and thence northward to Wadelai, where they expected to meet Emin Bey. Stanley, in the last letter which he wrote before leaving Zanzibar, justified his choice of routes at length. There were, he said, three routes proposed: The Masai route, running from Mombasa northward to the east of Lake Victoria; the Karagwe route, running north from some point in Zanzibar on the west side of the source of the Nile, and the route by the Congo River. By the Congo route the journey by land, including the portages around Livingstone Falls, is 595 miles; by the Masai route it is 925 miles, and by the Karagwe route 936 miles. (The reader should trace these routes on a map of Africa, so as to clearly comprehend the movements of the expedition.) Mr. Stanley urged as his chief reason for going by way of the Congo, that the country to be passed through was there less hostile, and there was less peril that the expedition would be hindered by attacks from the natives. Stanley reached the Congo by sea, March 29, and as soon after as was possible he and his men steered up the river in steamers. Several letters were subsequently received from him. June 18 he reported his arrival at Aruwimi Falls, and that all his company were well. July 15 he

sent back the steamers and began the overland march. Up to the present date (Sept. 15) no word has been received directly from the intrepid traveler, though indirect reports have come to hand and numerous rumors have been afloat. It was reported Aug. 15 that he and his men were suffering for need of provisions. The expected conjunction with Tipu Tib had not been made and the latter was unable to forward provisions, not knowing where Stanley was. Early in this year (1888) letters from Emin Bey reached Zanzibar. These under date of Sept. 24, 1887, said that Stanley had not reached Wadelai, and it was supposed that he had gone out of his direct route to avoid the swamps. Dr. Schweinfurth and others acquainted with the country insisted that there was no cause for alarm. Nothing was heard from or of the expedition during the winter. In April, men claiming to be deserters from Stanley's force reached the Congo. They reported that the expedition had been obliged to contest with hostile nations at every step of its progress, and that it had suffered much from sickness and lack of provisions. An expedition was to start from Stanley Falls, under Major Bartellot, to the explorer's relief in August, but was prevented by the assassination of its leader, on the very eve of its departure. The civilized world therefore, had no relief from its anxiety concerning Stanley and Emin until the last week of the current year, when word was received, that in August 1888, both were safe.

#### THE BLACK LAWS OF ILLINOIS.

BLACK RIVER FALLS, Wis.

What did the Black Code of Illinois contain, and when were the laws repealed? T. H. NICHOLS.

*Answer*—In 1819 a stringent law was passed by the State Legislature of Illinois, forbidding the importation of negroes into the State. Some years later, much litigation having arisen under this act, the Legislature passed an act releasing all penalties under it. But the feeling against the negro was very strong, and the constitution of 1848 contained an article which read as follows: "The General Assembly shall, at the first session under the amended constitution, pass such laws as will effectually prohibit free persons of color from immigrating to and settling in this State; and to effectually prevent the owners of slaves from bringing them into this State, for the purpose of settling them here." This article was submitted to a separate vote of the people when the constitution was voted on, and it was adopted by a majority of 28,933. The General Assembly of 1853, in accordance with this provision, passed an act, approved Feb. 12, which provided, (1) that any person bringing a negro, free or slave, to the State, should be liable to indictment, fine, and imprisonment therefor; (2) that any person not residing in the State coming under this indictment, might be arrested by requisition from the Governor, in any State where he might be found; (3) that any negro, bond or free, coming into the State and remaining ten days, should be seized and fined \$50 before any justice of the peace; (4) that he should be sold at auction in order to work out his fine and costs; (5) that for each subsequent offense he should be punished in like manner, his fine being increased to \$50 with each offense; (6) that by giving

bonds and security for double the amount of the fine and costs, a negro might take an appeal to the Circuit Court of the county; (7) that the person making complaint and prosecuting the case under any of the above provisions should be entitled to one-half the fine imposed; (8) that if any person should come forward and claim the negro as his property, he should be entitled to take possession of him on paying the fine and costs of his arrest, and (9) that any justice of the peace refusing to act in these cases should be punished for malfeasance in office. The above are the provisions known as the Black Laws of Illinois. Under a law passed in 1845, a negro who could "show his free papers" was allowed to settle in the State, but that permission was rendered utterly useless and nugatory under the laws of 1853. In 1862 these laws were confirmed and approved by the constitution then submitted to the people. Article 18 of this constitution was as follows:

"Section 1. No negro shall migrate to or settle in this State after the adoption of this constitution.

Sec. 2. No negro or mulatto shall have the right of suffrage or to hold office in this State.

"Sec. 3. The General Assembly shall pass all laws necessary to carry into effect the provisions of this article."

When submitted to the people the constitution of 1862 was rejected. But article 18 was voted on separately and by sections, and for each section there was a large majority. Not only was this the case at home, but the soldiers in the field having been allowed to vote, though they voted against the constitution as a whole, they accepted each of the above sections by a considerable majority. The responsibility for these laws, therefore, does not rest with any legislature or political leader, but with the people themselves, and there is no doubt that they fairly represented the popular feeling at the time. The black laws of 1833, and also those of 1845, however, were repealed by an act passed by the Legislature Feb. 7, 1865. The constitution of 1870 omitted the word "white," and in 1874 the Legislature passed an act giving colored children equal rights with white children in the public schools.

#### M. FERDINAND DE LESSEPS.

CHICAGO.

Give a brief sketch of M. de Lesseps, the famous French engineer. How old is he? R. NEWELL.

*Answer*—Ferdinand de Lesseps was born at Versailles, France, in 1805. In spite of his 83 years, however, he is still in excellent health, and remarkably active both mentally and physically. He was educated as a civil engineer, but when 20 years of age entered the diplomatic service. After long service in different consulates, he was appointed Minister to Spain, and held the position until the French revolution of 1848. Returning home he was sent by the Republican government as Minister to Rome. His commission to negotiate for the construction of the Suez Canal was granted in 1854, but ten years were spent in forming a company, securing funds, and overcoming other difficulties in the way of the enterprise. The work on the canal was begun in 1864, and finished sufficiently to afford passage to vessels in 1869. The enterprise has been enormously profitable to



the stockholders. De Lesseps began the Panama Canal in 1881, and then promised to have it completed in 1888. The enterprise has proved much more difficult than was anticipated, however, and it is still far from completion. For a full account of this enterprise, its difficulties and its progress, see *Our Curiosity Shop* book for 1886.

#### THE GOPHER.

GIVE DESCRIPTION OF THE VARIOUS ANIMALS TO WHICH THE NAME GOPHER IS APPLIED IN THE DIFFERENT STATES. A. LYMAN.

*Answer*.—Gopher is the common name of two very different American animals, the one comprising two rodent genera, the other the large land tortoise of the Southern States. Where the name gopher is used for the latter animal, the rodents are generally called salamanders. In Illinois and other Western States, the term gopher is also applied to other rodents, whose proper name is the prairie-squirrel. The rodent gophers, or pouched rats, are characterized by large external cheek pouches, large skull and lower jaw, short thick neck, thick and clumsy body, and short legs, with long stout claws on the forefeet for aid in burrowing. They are subterranean and nocturnal animals, rarely seen by daylight, and their color varies with their age and the season of the year. In the winter, the mature animals are reddish brown above, and ashy brown beneath. In the warm season all ages wear the lead-colored fur of the young animal. They are mostly found east of the Rocky Mountains, are abundant in Missouri, Illinois, and Iowa, and are also found in Canada. In the region of the Upper Missouri they are commonly known as mules. The Southern gopher—there called salamander—is a distinct species from that found in the Northern States. It is larger than the other, has fore feet longer than the hinder, a hairless tail, and its color lead brown above and ashy white beneath. This species abounds in Alabama, Georgia, and Florida. Five other species of this genus (geomys), differing in certain minor details, have been found in different parts of the Western States, Mexico, and Texas. There are also several species of gopher of the genus theomys, which are found principally on the Pacific coast. The California gopher is the largest of these. It is of a reddish chestnut brown above, paler beneath, with a grayish white tail. All the varieties of the genus theomys have small heads and fore feet that are considerably shorter than the hind ones. The gopher tortoise of the Southern States belongs to the family testudinina, or land tortoises, which live entirely on the land, and when put into the water walk on the bottom. This variety is about fifteen inches long, has a nearly flat shell, brownish yellow in color, with darker brown tints. The head is short and thick and covered with plates of a black color; the limbs are dark colored. It is found in Florida, Alabama, and Georgia, but does not appear to go north of the Savannah River. Like the rodent gophers, these burrow in the ground, especially in sandy places. They live in numbers in the wastes called the pine barrens and subsist on vegetable food only. They are very fond of basking in the sun, though they can not endure its full summer heat, and they especially

detest rainy weather. In winter they become torpid. The striped prairie squirrel, which in Iowa, Wisconsin, Minnesota, and Northern Illinois is commonly called gopher, belongs to the marmot family and the genus *spermophilus*. The head and ears are small, the legs short, the tail is long and squirrel-like, and the cheek pouches are well developed. Its color is dark brown above, with nine stripes of this color alternating with eight of a yellowish gray, the five central black stripes having on them yellowish dots and spots; the tail and lower body are brownish yellow. This species is found abundantly on the Western prairies, but not often on timber land; it burrows in the ground, but never goes far beneath the surface, so that a few pailfuls of water will readily drown out the animals. It lives upon grasses, roots, seeds, and insects; is often very destructive, especially in newly cultivated fields.

#### THE ENGLISH SPARROW—THE JACK RABBIT.

ROCKFORD, ILL.  
1. Who first introduced the English sparrow into this country; when and for what reason? 2. Also when was the jack rabbit brought in and for what purpose? A. J. B.

*Answer*.—1. The English house sparrow, a bird well known throughout all Europe, is said to have been introduced into the United States for the first time in 1858. Mr. Deblois, of Portland, Maine, first brought it into his locality, because of its usefulness as an exterminator of insects in orchards. It feeds its young upon the larvæ of insects, and a single pair of birds will, it is said, destroy 4,000 caterpillars in a season. The birds were brought into New York in 1860 by Mr. E. Schieffelin, and in 1864 the Central Park Commissioners also imported a number. They were introduced into Philadelphia in 1869 by the municipal authorities, and into Washington in 1871 by the Smithsonian Institution. They are now common in all the cities of the Northern States and have spread into the country districts. This bird was at first received with favor, because it is a sociable bird, and readily accommodates itself to the company of human beings in towns. Its usefulness in gardens and orchards was also appreciated. But it was found to be a very aggressive bird, disposed to quarrel with and drive away all other small birds, especially songsters, and great complaint has been made against it. 2. The jackass rabbit, so called because of its long ears, but properly known as the Texan hare, is a native of Mexico and Texas. It probably found its own way up to the central plains of the West, as it was found there by very early explorers.

#### THE FIRST ATLANTIC CABLE.

EVANSTON, ILL.  
Give short account of the laying of the first Atlantic cable. CAP.

*Answer*.—As early as 1842 Professor Morse declared a submarine cable connection between America and Europe to be among the possibilities, but no attempt toward this great achievement was made until 1854, when Cyrus Field established a company, which secured the right of landing cables in Newfoundland for fifty years. In 1858 soundings between Ireland and Newfoundland were completed, showing a maximum depth of 4,400 meters. Having succeeded in laying a

cable between Nova Scotia and Newfoundland, Mr. Field secured the co-operation of English capitalists in his enterprise. The laying of the cable was begun Aug. 7, 1857, from the port of Valencia, Ireland, but on the third day it broke, and the expedition had to return. Early in the following year another attempt was made. The cable was laid from both ends at the same time, was joined in mid-ocean, but in lowering it was broken. Again, in the same year, the attempt was made, and this time connection was successfully made. The first message over the line was sent Aug. 7, 1858. The insulation of this cable, however, was defective, and by Sept. 4 had quite failed. Some time was now spent in experiments, conducted by scientists, to secure a more perfect cable. A new company was formed, and in 1865 the work again began. The Great Eastern was employed to lay the cable, but when it was partly laid serious defects in the line were discovered and in repairing these it broke. The apparatus for recovering the wire proving insufficient the vessel returned to England. A new company, called the Anglo-American, was formed in 1866, and again the Great Eastern was equipped for the enterprise. The plan of the new expedition was not only to lay a new cable, but also to take up the end of the old one and join it to a new piece, thus obtaining a second telegraph line. The vessel sailed from Valencia July 13, 1866, and July 27 the cable was completely laid to Heart's Content, Newfoundland, and a message announcing the fact sent over the wire to Lord Stanley. Queen Victoria sent a message of congratulation to President Buchanan on the 28th. Sept. 2 the lost cable of 1865 was recovered and its laying completed at Newfoundland Sept. 8, 1866.

#### ENGRAVING ON EGGS.

I have seen egg-shells with small engravings in raised lines upon them. How is this done? OAK PARK, Ill.

B. L. C.

*Answer.*—The art of engraving on eggs is very puzzling to the uninitiated, but in reality it is very simple. It merely consists in writing upon the egg-shell with wax or varnish, or simply with tallow, and then immersing the egg in some weak acid, such, for example, as vinegar, dilute hydrochloric acid, or etching liquor. Wherever the varnish or wax has not protected the shell, the lime of the latter is decomposed and dissolved in the acid, and the writing or drawing remains in relief. In connection with this art a curious incident is told in history. In the month of August, 1808, at the time of the Spanish war, there was found in a church in Lisbon an egg, on which was plainly foretold the utter destruction of the French, who then had control of the city. The story of the wonderful prophecy spread through the town, causing the greatest excitement among the superstitious populace, and a general uprising was expected. This, however, the French commander cleverly thwarted by causing a counter-prophecy, directly denying the first, to be engrossed on several hundred eggs, which were then distributed in various parts of the city. The astonished Portuguese did not know what to think of this new phenomenon, but its "numerousness," if we may so call it,

caused it to altogether outweigh the influence of the first prediction, and there were no further symptoms of revolt against the French.

#### CATTLE IN SOUTH AMERICA.

SEARLOAF, Col.  
When were cattle first brought to South America? What countries there have the largest numbers of those animals now? READER.

*Answer.*—Columbus in 1493 brought a bull and several cows for the use of the colony that he founded on the island of Hayti, called by him Hispaniola. This was undoubtedly the first importation of cattle to America, and it is certain that there were no species of this animal that were indigenous to the new world. Later Spanish explorers brought over other cattle, of the Estemadura breed, and the enormous herds of wild cattle that now roam over the wide pampas or plains of South America are descended from the few thus imported. Herds numbering many thousands roam at will in their wild state over the plains of the Amazon and LaPlata valleys. The great cattle-raising countries of South America are Colombia, Venezuela, Brazil, and the Argentine Republic. In Ecuador, Chili, Peru, and Bolivia the cattle are generally domesticated.

#### CAYENNE PEPPER.

HOOPETON, Ill.  
How is cayenne pepper obtained, and from what kind of a plant? What is bird pepper? INQUIRER.

*Answer.*—The name of the plant genus from which cayenne pepper is obtained is capsicum, a name also given to the product of the plant. This genus belongs to the solanaceæ, or night shade family, and has no relation to the family piperaceæ, which produces the shrub yielding black pepper. The plant which yields cayenne pepper is identical with the common red pepper of our gardens. It is an annual, a native of tropical countries, where it thrives luxuriantly even in the driest soils, but it is also cultivated in other parts of the world. It grows to the height of two or three feet, and bears a fruit in the shape of a conical pod or seed-vessel, which is green when immature, but bright scarlet or orange when ripe. This pod, with its seeds, has a very pungent taste, and is used when green for pickling, and when ripe and dried is ground to powder to make cayenne pepper, or is used for medicine. This powder has a strongly stimulating effect, and is believed to aid digestion. It is also employed externally to excite the action of the skin. What is called "bird pepper" is made from another species of the capsicum plant, which has a small seed-pod, even more pungent in taste than cayenne pepper, and with a somewhat aromatic flavor. The plant is a shrub, and grows mainly in the East Indies.

#### THE PANTHEON OF ROME.

WABOO, Neb.  
Give a description of the Pantheon of Rome, stating when it was erected, and its present use. D. B. HILLS.

*Answer.*—A pantheon is, literally, a temple dedicated to all the gods. The famous structure of this name at Rome was erected by M. Agrippa, consul, in the year 26 B. C. It was subsequently repaired and improved by the Emperors Septimius Severus and Caracalla. In the year 608, A. D., the building was consecrated by Pope Boniface



IV. as a Christian church, under the name of *Sancta Maria ad Martyres*, but is still generally known by its heathen name. It stands near the center of the ancient *Campus Martius*, and, after the lapse of 1,900 years, is still the best preserved of the old Roman buildings. It is a rotunda, 143 feet in diameter, surmounted by a dome, the summit of which is 143 feet above the pavement. It has a portico in the style of the Corinthian architecture, 110 feet in length, and 44 feet in depth, made up of sixteen granite columns, with marble capitals and base, placed in three rows, each column being 5 feet in diameter, and 46½ feet high. These columns supported a pediment with a roof of bronze, but part of this metal was carried away by the Emperor Constantius II., and the remainder by Pope Urban VIII. to make cannon and columns for the Castle of Saint Angelo. Many fine marbles were removed from the building by other popes, but some of the most beautiful original features of the building, the bronze doors, the marble cornices, and the mosaic pavement of the inner temple, are still to be seen in good condition, and give the beholder a partial idea of what the original splendor of the building must have been.

#### THE GORDON FAMILY.

LITTLE HORSE CREEK, WYO. T.  
Give the history of the Gordon family of Scotland.  
S. J. GORDON.

*Answer.*—The origin of the great Scotch historical house of Gordon is quite obscure. A legend traces its descent from a mythical high official under Charlemagne, a Duke of Gordon, who was said to have flourished about the year 800. This person was of the lineage of the Gordoni, a tribe which took its name from the town of Gordunia, in Macedonia, and settled in Gaul before the days of Julius Cæsar. But this story is not credited by any critic of authority. It has also been claimed that the Gordons of France and the Gordons of Scotland are of a common ancestry, and that the first of the name to come to England crossed the channel with the Conqueror. This may be true, but can not be verified. The territory known as the lands of Gordon, in Berwickshire, is said to have been given by King Malcolm Canmore (1057-93 A. D.) to the progenitor of the Gordon house, with a shield bearing three boars' heads, as a reward for slaying in the forest of Huntly a wild boar which was the terror of all the surrounding country. But the first authentic record of the family is about the end of the twelfth century, when the names of certain Gordons were appended as witnesses to charters by the Earls of March and Dunbar. Other documents show that land and rights of pasturage were leased by monasteries in Berwickshire from the Gordons. The first prominent bearer of the name was Sir Adam of Gordon, who was Justiciar of Lothian under Edward I., and was high in the confidence of that Prince, and sat in the English Council at Westminster as one of the representatives of Scotland. He seems to have been one of the last of the Scottish chiefs to join the banner of Bruce, but his allegiance, though tardy, was so valuable that the leader rewarded it with a grant of land in Strathbogie. This grant did not go into effect,

however, in Sir Adam's time, but was confirmed to his descendants by David II. in 1357, and by King Robert II. in 1376. Under the last renewal Sir John of Gordon, the great-grandson of Sir Adam, took possession of the land, and transferred his residence thereto from his ancient baronial hall. Sir John was succeeded by his son, Sir Adam, who fell at Homildon in 1402. In him the direct male line perished, as he left but one child, a daughter. She inherited his great possessions, and his name was transmitted through two illegitimate sons of his father, Sir John Gordon of Scurdargue, and Thomas Gordon of Ruthven, who founded a wide circle of gentry on the lands of Mar, Buchan and Strathbogie. These claimed to call themselves the Gordons, while the family descended through the female line they called Seton-Gordons. Elizabeth Gordon, the daughter of Sir Adam, married about 1407, Alexander Seton, who, in 1437, was made Lord of Gordon. Their son Alexander assumed the surname of Gordon, and received the further titles of the Earl of Huntly and Lord of Badenoch. He died in 1470, and was succeeded by his second son George, who married a daughter of King James I., of Scotland, and was Chancellor of Scotland from 1498 to 1502. He was succeeded by his son Alexander, who commanded the left wing of the Scottish army at Flodden Field, but escaped the carnage of that bloody battle, and survived till 1524. He was succeeded by his grandson George, under whom the family reached, perhaps, its highest pinnacle of greatness. This nobleman added the Earldom of Moray to his already vast possessions, for many years held the important offices of Lieutenant of the North and Chancellor of the Realm, and had the repute of being the wisest, wealthiest, and most powerful subject in Scotland. The crown, it is said, was compelled to clip his wings, lest he should attempt to overshadow the throne. He was stripped of the Earldom of Moray, and, rushing into revolt, was routed and slain at the battle of Corrichie in 1562. Sentence of forfeiture had been passed upon him, but a few years later it was rescinded, and his son George succeeded as fifth earl. Upon the death of this peer in 1576, he was succeeded by his son George, who became conspicuous some years later as the head of the Roman Catholic power in Scotland. He defeated the Protestant army under the Earl of Argyll in 1594, but later submitted to the King and was pardoned. He died in 1636. (We may note by how short a space, comparatively, modern civilization is separated from the old days of violence, by the fact that he was the first head of the house who "bought" land. All before him had increased their possessions by force of arms, or through the gift of a monarch who had obtained them in like ruthless manner.) His son George was a zealous champion of the royal cause in the great civil war of his time, and was beheaded by the covenanters at Edinburgh in 1649. He was succeeded by his son Lewis, who died in 1653, and left his possessions to his son George, who in 1684 was made Duke of Gordon. This peer held the castle of Edinburgh for King James at the revolution, and, dying in 1716, was succeeded by his son Alexander, the second duke

and the last Roman Catholic chief of the house, who died in 1728. His son and successor, Cosmo George, died in 1752, leaving three sons. Of these the youngest, Lord George Gordon, led the Protestant mob which sacked London in 1780. The eldest, Alexander, who succeeded his father, died in 1827, and was succeeded by his son George, on whose death, without issue, in 1836, the title of Duke of Gordon became extinct, the title of Earl of Huntly fell into abeyance, and the title of Marquis of Huntly was adjudged to the Earl of Aboyne, as living heir of the first marquis. The estate went to the Duke's nephew, Charles, Duke of Richmond and Lennox, grandson of Alexander, the fourth duke. On the death of this peer in 1860 his son Charles succeeded him. In 1876 the title of Duke of Gordon was revived for this peer, who is now the chief living representative of the historic house of Gordon.

A few words may be added concerning other branches of this noted family. Earl George, who as mentioned above, fought as leader of the Catholics against the Earl of Argyle, was made Marquis of Huntly by James VI. His second son, Lord John, received the titles of Viscount of Melgund and Lord Aboyne in 1627. This peer, with other members of his family, was burned to death in the tower of Frensdraught in 1630, by the treachery of their hereditary enemies, the Crichtons. The title of Viscount of Aboyne was conferred two years later on the heir of the house of Lord George, and on his accession to his full titles, in 1636, devolved on his third son, who was a distinguished leader on the King's side in the wars of the covenant, and who died a few days after the execution of Charles I., in 1649, apparently of disappointment and grief. His title passed to his brother Charles, who in 1660 was made Earl of Aboyne. It was the great-great-grandson of this peer, George, who succeeded to the Marquisate of Huntly in 1836. He had been in his youth, for his handsome person and many accomplishments, an especial favorite at the court of Marie Antoinette, and died at a great age in 1863. His son Charles now bears his titles. The second son of Sir Adam of Gordon, who figured in the reign of King Robert I. (1306-1329), was the progenitor of the knightly family of Lochinvar, which in 1633 was raised to the peerage by the titles of Lord of Lochinvar and Viscount of Kenmure. William, the sixth viscount of this line, was beheaded in 1716 for his share in the Jacobite revolt. He was the Kenmure mentioned in the Jacobite songs. This peerage was then forfeited, but was restored in 1824. It has, however, had no representative since the death of Adam, the ninth viscount, in 1847. The Earls of Aberdeen are descended from one of the illegitimate brothers of the Sir Adam who fell at Homildon in 1402. One of this branch, Sir John Gordon of Haddo, was one of the most gallant of the northern cavaliers, and was beheaded at the cross of Edinburgh by the covenanters in 1644. A nephew of his was the noted Sir Patrick Gordon, who was "a soldier of fortune." He became a distinguished officer in the Russian army, and a great friend of Peter the Great. Sir John's son, George, was a lawyer of

great ability, and after holding several important offices, became Lord Chancellor in 1682, and received the title of Earl of Aberdeen the same year. He died in 1720. His great-great-grandson, George, was Prime Minister of England from December, 1852, to February, 1855, and died in 1860. The present representative of this branch is John C. Hamilton Gordon, who succeeded in 1870. The Earls of Sutherland are descended from Adam Gordon, second son of George Gordon, and Annabella, daughter of King James I., who, in 1512, married Elizabeth, the heiress of Sutherland, and became Earl of Sutherland. Their descendants kept their family name of Gordon until the middle of the eighteenth century, when they changed it to Sutherland. The present representative of the branch bears the surname of Leveson-Gower, through failure of the male line, and adoption of names brought into the family by marriage. It may be noted in conclusion that the famous poet, George Gordon, Lord Byron, belonged to the house of Gordon of Gight, which claimed descent from a younger son of the Earl George who was the progenitor of the Sutherland family. From this branch also came Colonel John Gordon, Governor of Eger, in Bohemia, who in 1634 was one of the assassins of the great General Wallenstein.

#### FOREIGN CONTRACT LABOR LAW.

ABERDEEN, D. T.  
When was the foreign contract labor law passed, and what was the party vote on it? R. A. MILLS.

Answer.—A bill entitled "An act to prohibit the importation and migration of foreigners and aliens under contract or agreement to perform labor in the United States, its Territories, and the District of Columbia," was passed in the House without a division June 19, 1884. In the Senate it was referred to the Committee on Education and Labor, from which it was reported, without amendment, June 28, but it was not considered. Feb. 17, 1885, it was taken up by the Senate, discussed, and amended, and finally passed, 32 Republicans and 18 Democrats voting for it, and 8 Democrats and 1 Republican against it. Feb. 23, the amendments were concurred in by the House without a division, and the bill was approved by the President Feb. 26, 1885.

#### COUSINS.

MAYFAIR, Ill.  
What degree of relationship exists between the great-grandchildren of Samuel and John, who were brothers? A. B. M.

Answer.—Usage has been by no means uniform concerning the degree of relationship implied in the word cousin. According to the dictionary the word signifies one collaterally related more remotely than a brother or a sister, usually the children of an uncle or an aunt. In common speech the degrees of this relationship are indicated by numeral adjectives. Thus a man properly styles the children of an uncle his cousins. The children of his father's or mother's uncle are then his second cousins, and those of a great uncle on either side are his third cousins. But the children of this man may style his cousins as their second cousins, his second cousins as their third cousins, and so on. By this rule the great-grandchildren of two brothers, Samuel and John, are fifth



cousins. Others regard their parent's cousins as their own in the same degree, thus removing the relationship but one degree in a generation. By this rule the great-grandchildren of two brothers are third cousins. The relationship is also sometimes expressed in its removals. A cousin once removed is a parent's first cousin, or the child of a first cousin; the children of a second cousin are cousins twice removed, and so on. In common practice we follow the primal meaning of the word, and call all collateral relations, aside from children of our parents, cousins. In this connection we may note that the use of cousin as a complimentary title vouchsafed by the kings and queens of England, not only to those connected however remotely to the royal house, but to other notable persons, is founded upon an instance of something more than mere compliment. When Henry IV. came to the throne he was connected by blood or marriage with so many of the principal lords of the kingdom that the term "cousin" was fairly applicable to the majority of his followers. From this instance it came to be adopted by subsequent sovereigns as a mark of compliment as well as of right.

#### HORSES IN THE OLD AND NEW WORLDS.

STEVENS PT., WIS.

Give a history of the horse in both the Eastern and Western hemispheres. Where did it first originate? Is it true that bones of the horse have been found in prehistoric remains on this continent?

R. F. JONES.

*Answer.*—Naturalists are obliged to admit that the original native country of the horse is not certainly known, but there is little doubt that he was first brought into subjection by man in Central Asia, or in Nubia and the adjacent country of Northern Africa. It is known that the horse was in use as a domesticated and highly valued animal among the ancient Egyptians from a very early period, although other nations of antiquity seem to have preferred the ass as a domestic animal from its easier management and harder nature. But whether the wild horses now found in Asia and Northern Africa, are really indigenous to those regions, or whether they are the offspring of animals escaped from domestication as in America, and whether the origin of the domestic horse is to be referred to one original race, or to several different races from different countries, are questions also uncertain: the weight of probability, however, inclines to the Tartar horse as the original type, and to the belief that the cradle of the human race—Central Asia—was also the birthplace of his best and most loyal friend—the horse. The wild horse now existing in Tartary is very vicious and untamable. It is of a reddish color, with a black stripe across the back, and a black mane and tail. On some of the other plains of Central Asia there is a wild horse which is white, or dappled gray in color. The wild horses of both North and South America are known to be descendants of domestic horses brought thither by the Spaniards, as the animal was unknown to the aboriginal inhabitants of the country. They are called mustangs, and exhibit some diversity of color but are most generally bay-brown. There are also wild tribes of horses on the Falkland Islands, and on the Island of Celebes, all probably descended

from the domestic animal. Generally speaking, wild horses are smaller and more muscular than the tame horse, have stronger limbs, larger head, longer and less erect ears, bushier mane, rougher coat, smaller hoofs and less variety of color. The varieties of domesticated horses of modern times show great differences, partly owing to climate, but mainly to cultivation of different qualities. The horses of the north part of Africa, from Barbary—hence known in the middle ages as Barbs—and those of Arabia, are much alike. They are beautifully formed, with small heads, fine legs and feet, and are remarkable for speed, endurance, and docility. The Turkey horse and that of Persia, being descended from the Arabian, manifested the same qualities. The horse of Persia was brought to England in the time of Elizabeth, and by its cross produced an excellent breed. The English horse before that time is believed to have been a cross between the Flanders horse and the Hungarian, and being mainly used for hunting purposes it was swift and enduring. The Flanders, or Dutch horse was, as it still is, a large, heavy, slow horse, and the Hungarian horse was descended from the Tartar breed, which was carried into Russia and the Danubian States, and was a small, bony, rough animal, with a large head and great endurance. Writers on the subject trace all the modern types of horse to the intermixtures of the Arabian, or Barbary horse, the Flanders, and the Tartar breeds. The Spanish, or Andalusian horse, long enjoyed the highest reputation, both for civil and military purposes. They owed all their virtues to their Barbary blood. This breed has now become greatly deteriorated through neglect. A favorite horse of the sixteenth and seventeenth centuries seems to have been a cross of the Flanders and Andalusian horses, and this is believed to have been the origin of the fine Percheron breed of modern France. The horses of Germany, like those of France, have been modified by all the eastern breeds, and are a fine, hardy type. But in England the most attention has been given to the breeding of horses, with a result which has far surpassed the horses of all other European nations. So early as 1600 it was found that the cross between the Barbary and the English horses produced animals of remarkable speed, and in the reign of James I. two noted stallions, "Markham's Arabian" and "Place's White Turk," were imported. Charles II. imported what were known as "the royal mares" from Tangiers. The "Darley Arabian" and "Godolphin" were brought in during the reign of Queen Anne, and from that time on there were numerous importations, which laid the foundation of the great family of thoroughbreds. These horses now undoubtedly surpass all others in the combination of excellent qualities. The first importations of thoroughbreds into America were about 1725-30. This class of horses is bred primarily for racing purposes, but the improvement of horses for all purposes through their means, is shown by the superior quality of the average horse in States where the taste for racing has introduced many thoroughbred horses—as in New Jersey, Virginia, Kentucky, and others.

America has taken advantage of all the fine breeds of the Old World, and has produced some of the finest strains of horses known. Though it is certain that no species of horse existed on the Western Continent when it was first visited by Europeans, there is no doubt that the horse lived here in early geological times, as its fossil remains have been found in many places in conjunction with the bones of the mastodon. Whether this ancient horse really became extinct before the first advent of man upon the continent is not known.

## IMAGES ON THE EYE.

CHICAGO.

If, as is well known, objects are reflected on the retina of the eye upside down, how is it that we see them right side up?

L. A. W.

*Answer.*—We see objects in the upright position, and not inverted, because what we are conscious of in vision is not the image on the retina but the object whence the rays of light proceed to the eye, and thus sensation is always referred to the direction of these rays. In running the eye over a large object we are not conscious of the different images that are formed upon the retina, but of the muscular movements necessary to bring the parts successively in the direct range of vision. The sensation of sight is continuous, and the various impressions on the retina are, to the external vision, fused into one object. Habit and knowledge of form combined teach us to place all perceived objects outside of the eye. We judge this knowledge of the exterior nature of perceived objects to be largely derived from habit, because persons who, having been born blind, have obtained eyesight through an operation, always at first imagine the objects which they perceive, to be in close proximity to the eyes. They do not have the sense that objects seen are outside of them, which is entirely natural to those accustomed from infancy to the use of their organs of sight. It is necessary for them to learn the external nature of objects by a slow process of education, in which the sense of touch must be frequently called in to aid the inexperienced sense of vision.

## STATISTICS OF GOLD AND POPULATION.

THORNFIELD, MO.

1. What is the relative gold and silver output of the United States to the rest of the world? 2. What is the relative population of the United States to the rest of the world? 3. Give population of the United States and of European countries, per square mile.

T. H. CLARK.

*Answer.*—The United States has yielded over 10 per cent of the entire product of the precious metals of the world since the Western Hemisphere was discovered, nearly four hundred years ago. At the present time the countries producing gold are, in order, beginning with the highest ratio, as follows: United States, Australia, Russia, Central America, Colombia, New Zealand, India and adjacent islands, Borneo, Africa, Brazil, British Columbia, Chili, China, Austria, France, Japan, Argentine Republic, Prussia, Spain, Peru, and Mexico. A very small proportion is also obtained from some other countries. The silver-producing countries, in order, are: United States, Mexico, India and islands adjacent, Peru, Chili, Australia, France, Argentine Republic, Central America, Colombia, Brazil, Russia, Austria, Prussia, Spain, New Zealand, Japan, and Africa, with a few others producing minor quantities. This

estimate is taken from a table made by David M. Balfour, of Boston, about eight years ago. Of course an estimate of this kind can not, in the nature of things, be more than approximately correct. 2 and 3. These questions are answered by the following table, which gives the population of all the countries of the world at the latest census of each, their area, and number of inhabitants per square mile.

COUNTRIES.	Last census.	Population.	Area in square miles.	Inhabitants per square mile.
Argentine Republic.....	1875	2,400,000	827,177	2.90
Austria-Hungary.....	1880	37,741,413	240,415	156.93
Belgium.....	1885	5,853,278	11,369	481.71
Bolivia.....	1878	2,080,000	500,740	4.15
Brazil.....	1883	12,383,375	3,218,166	3.14
Canada, Dom. of.....	1881	4,324,810	3,204,381	1.35
Ceylon.....	1881	2,758,166	24,702	111.05
Chili.....	1878	2,400,396	124,084	19.34
Chinese Empire.....	Est	434,626,000	4,560,109	95.30
Colombia, U. S. of.....	1870	2,951,323	320,638	9.20
Denmark.....	1880	2,096,400	14,784	136.20
Ecuador.....	1885	1,004,651	248,312	4.63
Egypt.....	1883	6,817,265	1,152,943	5.93
France.....	1881	37,405,290	204,030	180.88
Germany.....	1885	46,852,450	208,624	216.69
Great Britain and Ireland.....	1881	35,246,633	121,571	289.92
Greece.....	1879	1,979,423	20,018	83.94
India, British.....	1881	252,541,210	810,542	311.57
Italy.....	1878	28,452,639	114,380	246.63
Japan.....	1882	36,700,118	146,508	284.28
Mexico.....	1882	10,447,974	741,598	14.08
Morocco.....	Est	6,370,000	313,560	20.31
Netherlands.....	1885	4,336,012	12,727	312.86
Norway.....	1876	1,806,900	122,823	14.71
Paraguay.....	1879	346,046	97,980	3.76
Persia.....	Est	7,000,000	636,203	11.00
Peru.....	1876	3,050,000	72,413	42.11
Portugal.....	1878	4,550,699	34,595	125.69
Russian Empire (inc. Siberia).....	1883	103,912,640	8,138,541	12.75
Roumania.....	Est	5,376,000	50,159	107.17
Serbia.....	1884	1,903,350	18,781	84.64
Siam.....	Est	5,750,000	280,564	20.49
Spain.....	1877	16,625,860	193,171	84.55
Sweden.....	1885	4,682,769	170,927	26.51
Switzerland.....	1880	2,846,102	15,908	177.10
Turkey.....	Est	25,161,100	860,322	29.10
Uruguay.....	1884	559,668	72,151	7.75
United States.....	1880	50,155,783	3,602,900	13.92
Venezuela.....	1881	2,075,245	439,119	4.06

DANIEL O'CONNELL.

MADRID, IOWA.

Give a biography of Daniel O'Connell.

C. J. LINDBERG.

*Answer.*—Daniel O'Connell was born in County Kerry, Ireland, Aug. 6, 1775. He was well-educated, and was called to the bar at the age of 23, where he soon distinguished himself as an able advocate. His first political speech was made at Dublin, Jan. 13, 1800, at a meeting of Catholics to petition against the proposed legislative union between Great Britain and Ireland; this meeting was broken up by military force, and from this time O'Connell was known as an active agitator in the Irish National cause, and was soon the acknowledged leader of political reform in Ireland, and the especial advocate of Catholic emancipation. In June, 1823, O'Connell was elected to Parliament. His refusal to take the "test-oath" required, forced the question of emancipation upon Parliament, and the great



leaders of the Conservative party, Sir Robert Peel and the Duke of Wellington, resolved to concede it. On the meeting of Parliament, in February, 1829, the speech from the throne recommended a removal of disabilities of Catholics, which in a short time was carried out. O'Connell held his seat in Parliament by repeated elections until his death. About 1840 he began to urge that the repeal of the legislative union between Great Britain and Ireland was the only means of obtaining justice for the latter kingdom. Monster meetings were held at various points by the repealers, at all of which O'Connell appeared, making eloquent speeches in behalf of repeal, but taking great care to prevent, as far as he could, violent action on the part of the people. It is said that at some of these assemblages 500,000 people were present. The people, in their enthusiasm, gave O'Connell the title of the Liberator of Ireland, but the British Government was very suspicious of his movements, and finally forbade the meetings on the ground that they threatened the public peace. Then, Oct. 14, 1843, O'Connell, with his son and eight of his friends, was arrested by order of the government and tried on the charge of sedition. He was found guilty and sentenced to imprisonment for twelve months and to pay a heavy fine, and was bound over to keep the peace for seven years. This decision was revoked by the House of Lords, but the repeal movement had received its death-blow. Dissensions broke out in the Irish party, O'Connell was charged with weakness and cowardice because he had always refused to appeal to physical force in carrying out his reforms. He felt this accusation deeply, his health gave way, and he withdrew entirely from political agitation. He made his last speech Feb. 8, 1847, in the House of Commons, and soon after started for Rome to receive the blessing of the Pope. He died on the way, at Genoa, May 15. His heart was embalmed and carried to Rome, and his body was taken back to Ireland.

#### THE "CUTTING" CASE.

CHICAGO.

Please give the circumstances of the case of Editor A. K. Cutting, that assumed some international importance a year or more since. R. NELSON.

*Answer.*—Mr. A. K. Cutting, an American, published a Spanish paper in Paso del Norte, a town of Northern Mexico. In May, 1886, he published an article in his journal making charges against a rival publisher, and was arrested and tried for libel. He was convicted, but escaped punishment by agreeing to publish a retraction or "reconciliation," which was drawn up by the judge. This document Cutting printed in his Paso del Norte paper in extremely small type without the use of capitals or punctuation points, and in such a manner as to make the entire proceeding a contempt of court. This trick was understood, by Mexican law, to void the reconciliation, and leave the original charge standing in full force. About the same time also, Cutting crossed the Rio Grande to El Paso and published in a Texas paper a reiteration of the first libel and, according to his own admission, took a copy of the sheet with him on his return to the Mexican side, and there put it into circulation. The irrepressible editor was therefore

again arrested and imprisoned for contempt of court. He was again tried, and since his second libel was, in legal phrase, "uttered" in Mexico, by being circulated there, though printed elsewhere, he was sentenced to one year's imprisonment. The prisoner appealed to the State Court of Chihuahua, and also to the government of the United States, on the plea that he was being punished in Mexico for an offense committed in Texas. The case produced some newspaper excitement. His plea was supported by the United States Consul at Paso del Norte, and after some delay Secretary Bayard demanded the prisoner's release, but before this demand was received by the Mexican officials, they had already liberated Mr. Cutting on an order from the State Supreme Court of Chihuahua.

#### MEXICAN WAR PENSIONS.

LEXINGTON, OHIO.

Did the soldiers of the Mexican war receive any pensions previous to the war of the rebellion, and if so when was payment of them suspended?

W. WILSON.

*Answer.*—No service pensions had been granted to the soldiers of the Mexican war previous to the beginning of the civil war, but all wounded and otherwise disabled soldiers, and the families of those killed in that war, had been given pensions. On the outbreak of the rebellion all those pensioned in other wars, whose homes were in the insurgent States, were cut off from the list, and also all those in the Northern States known to be disloyal. In 1867, widows who could prove their loyalty during the war were restored, but it was held that no pardon from the President or Congress could entitle soldiers or soldiers' widows to restoration to the pension list. In the pension laws of 1873 this restriction was reaffirmed as follows: "No money on account of pension shall be paid to any person, or to the widow, children, or heirs of any deceased person, who, in any manner, voluntarily engaged in or aided or abetted the late rebellion against the authority of the United States." This act was nullified by the passage of the Mexican war pension bill of 1886, which granted a pension of \$3 a month to all survivors of that war who received an honorable discharge, and surviving widows of all soldiers and sailors who had been married to them previous to their discharge. The only persons in this category barred out were those who, having held service under the Confederacy, had not since had their disabilities removed by Congress.

#### COLLIE AND SHEPHERD'S DOG.

BAY PORT, MICH.

Is there any difference between a collie and a shepherd's dog? Please describe these dogs, giving their history and habits. E. MURDOCK.

*Answer.*—The name "collie" is, it is true, often applied to any shepherd dog, but the collie proper is only one variety of the true shepherd dog. All these varieties manifest remarkable intelligence, and indeed the species stands at the head of the list of dogs that are useful to men. It has the wolf-like stature, head and hair, and therefore some naturalists have classed it nearest to the primitive type of the domestic dog. But its high development of intelligence would seem to show it to be the most highly improved of dogs, and in this respect the farthest removed from the primi-

type type. The varieties of shepherd dog are alike in having long, shaggy hair of a dark color, varied with gray or a yellowish brown, ears short and erect, and a bushy tail, slightly recurved. It is very muscular and strong, and although never quarrelsome manifests great courage in defending the sheep under its care, or its master. There are three varieties of the shepherd dog found in Great Britain—the Scotch collie, which is a rou h-haired dog from 12 to 14 inches high, and is believed to be purer bred than the other shepherd dogs; the Britain, or Southern shepherd dog, larger in size, but with shorter fur and shorter tail; and the drover's dog, still larger, generally black and white in color, and used in driving flocks. In color the collie is nearly always black and tan, with little or no white hair, thick and woolly, nose sharp but not long, ears short and sharp, tail long, bushy, and recurved. A pure-bred collie has one or two dew claws on the hind legs. The eye and face of the dog are unusually bright and keen, indicating the animal's high order of intelligence. The shepherd dog species was originally a native of Europe, though it is now found in all the countries of the new world. The German shepherd dog is a small, wiry, active, long-haired dog, of a dark or tawny color; bright, active, and affectionate. Allied species are the large wolf-dog of Pomerania, and the watch-dog of Central Asia.

#### SLAVERY AND SECESSION IN THE CONFEDERATE CONSTITUTION.

HERINGTON, Kan.  
Give the clauses on slavery and rights of secession as incorporated in the constitution of the "Confederate States."

I. F. S.

*Answer.*—The constitution adopted by the Confederate States was so closely patterned after the Constitution of the United States that the precise language of the last-named document was largely adopted, and the same order of articles and sections was followed throughout. The allusions to slavery were as follows: In the third paragraph of the second section of Article I. the words "three-fifths of all other persons" are made "three-fifths of all slaves." The whole of the first paragraph of section nine of the article was rejected, and in its place the following words substituted: "The importation of negroes of the African race from any foreign country other than the slave-holding States or Territories of the United States of America is hereby forbidden, and Congress is required to pass such laws as shall effectually prevent the same. Congress shall also have power to prohibit the introduction of slaves from any State not a member of or Territory not belonging to the Confederacy." In the third paragraph, after the prohibition of an "ex post facto law," any "law denying or impairing the right of property in negro slaves" is also forbidden. The first and third paragraphs of the second section of Article IV. are altered so as to cover the rights of transit and sojourn with slave property, and recovery of fugitive slaves, and read thus: "The citizens of each State shall be entitled to all the privileges and immunities of citizens in the several States, and shall have the right of transit and sojourn in any State of this Confederacy, with their slaves and other property; and the right of property in said slaves shall not be thereby impaired.

No slave or other person held to service or labor in any State or Territory of the Confederate States under the laws thereof, escaping or lawfully carried into another, shall in consequence of any law or regulation therein be discharged from such service or labor, but shall be delivered up on claim of the party to whom such slave belongs, or to whom such service or labor may be due." In the second paragraph of the third section of the same article, provision is made for the admission of new States into the Confederacy from outside territory "belonging to the Confederate States," and it is further added that, "In all such territory the institution of negro slavery as it now exists in the Confederate States, shall be recognized and protected by Congress and by the territorial government, and the inhabitants of the several Confederate States and territories shall have the right to take to such territory any slaves lawfully held by them in any of the States or Territories of the Confederate States." No allusion was made in the constitution to the "right of secession."

#### HADES.

MERIDEN, Neb.

What is the right meaning of the word *hades*? What ancient nations believed in *hades* as a place of punishment, and what did they imagine was the form of punishment there?

READER.

*Answer.*—The word *hades* is from the Greek. Its etymology is somewhat doubtful, but it is generally believed to have come from the verb *idein*, meaning to see, and the particle *a*, signifying not or without. Hence it may mean what is out of sight, the invisible world, or, where nothing can be seen, the place of darkness. In Homer the name is applied to Pluto, the lord of the lower regions, perhaps because he was the deity who had the power of making mortals invisible. The Greeks, however, gave up the latter application of the word and when the Greek Scriptures were written the word was always used to designate the place of departed spirits. It was the common receptacle of departed spirits, the good as well as the bad, and was divided into two parts—the one an Elysium of bliss for the good, the other a Tartarus of punishment and grief for the wicked; and its locality was supposed to be underground, in the mid-regions of the earth. There is no doubt that the Hebrew word *sheol*, translated in the Old Testament by the words *hell* and the grave indiscriminately, has properly the simple idea of the place and condition of the departed, of whatever degree. And the word *hell* had originally the same general meaning, being derived from the Saxon *helan*, to cover, and signifying merely the covered, or invisible, place—the habitation of those who have gone from the visible terrestrial world to the world of spirits. In the very early stages of Grecian history no complete theory of punishment or rewards in *Hades* had found its way into the popular creed. The prevalent belief was merely that the souls of the departed—with the exception of a few who had personally offended against the gods—were occupied in the lower world in the unreal or shadowy performance of the same actions that had employed them when in the region of day. (Such is



essentially the Chinese belief concerning the unseen world to the present day.) The poets and dramatists introduced the accessories of tribunals, trials of the dead, a paradise for the good and a place of torture for the bad. The modes of punishment imagined were ingenious, such as that of Ixion, who was bound to an ever-revolving wheel; that of Sisyphus, who was set to roll a huge stone up a steep hill, a toil never ending and still beginning, for as soon as it reached the summit it rolled back again to the plain; or that of Tantalus who was placed up to his chin in water, but was unable to quench his thirst, as the water constantly slipped away from him as he raised it to his lips. Over his head also hung a branch loaded with fruit, but as he stretched forth his hand to grasp it, it sprang from him toward the clouds. It is plain that these punishments had their origin in the imaginations of poets rather than of priests or religious teachers. The Romans modeled their mythology on that of Greece. Nearly all nations have had ideas, more or less crude, of a system of rewards and punishments in the future world for the deeds done in this.

## THE CIRCASSIANS.

Who are the Circassians? What country do they come from? Give their history and occupations, etc.

GREENCASTLE, Ind.  
JAMES S. FOX.

*Answer.*—The name Circassians, in the wide sense of the term, is applied to all the independent tribes of the Caucasus; in its more restricted meaning it denotes the tribes who inhabited the small mountainous region of European Russia, situated on the northeast coast of the Black Sea, and called Circassia. This province has an area of about 20,000 square miles, and is bounded by the Black sea on the west and the river Kuban on the north. These people call themselves Adighei, the "noble race," but the Russians and Turks call them Tcherkesses (whence the word Circassia and Circassians), a name first given them by the Tartars, and meaning "highway robbers." Though their race had made its home in the Circassian hills from time immemorial, this people preferred when conquered by Russia in 1864, to emigrate to Turkey rather than remain in subjection to their hereditary enemy. Nearly the entire nation of fifteen tribes, between 400,000 and 500,000 people, carried this choice into action, and were distributed mainly through the Turkish possessions of Asia Minor, but others were settled in the mountainous parts of Bulgaria and on the borders of Servia. The Circassians were, in their original country, a marauding and warlike people, averse to labor, and addicted to robbery and bloodshed, and in common with most brigand tribes, they cherished a most ardent love of independence. Their occupations during times of peace were altogether pastoral and their wealth consisted in flocks, herds, horses and arms. There were five distinct ranks in the nation—princes, nobles, common freemen, dependents and slaves. The class of common freemen made up the bulk of the nation, and these, though regarded as greatly inferior to the noble families, had equal property and political rights. The dependents formed the armies of the princes, and also with the aid of the

slaves, who were the captives taken in war, cultivated the lands. Pride of birth was very strong among the higher classes. As to religion, while the princes and nobles generally professed Mohammedanism, the great mass of the people had a religion which was a kind of mixture of Christianity, paganism, and Islamism. The Circassians, in their new homes, have few branches of industry other than agriculture and cattle-raising, though large numbers of the men serve in the Turkish army. That some of the worst traits of their character have been stimulated by their Turkish alliance is shown by their active participation in the Bulgarian massacres of 1876 and 1877. The Circassians are proverbially handsome, being of middle height, of compact frame, with small hands and feet, clear complexion, and fine eyes. The beauty of their women has especially rendered them famous, and as wealthy Turks have been willing to pay large sums for the privilege of adding these fair damsels to their harems, this beauty is preserved by exemption from labor and the use of cosmetics. The traffic in their daughters has always been a reproach against the Circassians, but it must be admitted that the young women were willing victims, as it was their highest ambition to become the wife of a rich Turk. However, the Circassians are not without virtues. They are temperate and prudent, and have the characteristics of courage and self-reliance in a high degree. Of the early history of this people little is known. They were nominally under the control of the Roman Emperors previous to their conquest in the fifth century by the Huns. Later they came under the dominion of the Khazars, then of the Seljukian Turks, and then of the sovereign of the neighboring country of Georgia. In the early part of the thirteenth century their country was laid waste by the Mougols under Batu Khan, and in the latter part of the fourteenth it was devastated by Tamerlane, who compelled the people to embrace Mohammedanism. During the sixteenth century, after some years' resistance, the Circassians submitted to the Tartar Khans of the Crimea, but in consequence of the exactions of the Tartar officials, they revolted about 1705, massacred the tax collectors, overthrew a Tartar army sent against them, and made an alliance with the Turkish Sultan. In the early part of this century the famous struggle between the Russians and Circassians began, which continued until 1864, when the alternative of emigration to Turkey being offered them, they chose it rather than submit to Russian dominion.

## BRITISH HONDURAS.

MINNEAPOLIS, Kan.  
When and how did the British Government acquire possession of Balize? I. C.

*Answer.*—The first permanent settlement in the country now known as British Honduras (formerly Balize) was made by British subjects from Jamaica in the latter part of the seventeenth century. They were attracted by the abundance and excellence of the mahogany and logwood to be obtained there, and the colony carried on such a successful business that other settlers joined them in large numbers, though the Spaniards made

many efforts to drive them from the country. These difficulties continually recurred until 1798, when a formidable attack of the Spanish with a fleet of vessels and a land force of 2,000 men was repulsed and altogether defeated. Since that time the country has remained undisturbed in the possession of Great Britain. By the terms of the Clayton-Bulwer Treaty between England and the United States, finally ratified June 29, 1850, in which the two powers mutually agreed not to occupy, fortify, or colonize any part of Central America, the present occupation of British Honduras was expressly excepted.

#### ST. GEORGE AND THE DRAGON.

CINCINNATI, Ohio.  
Give a history of St. George, the patron saint of England.  
SONS OF ST. GEORGE.

**Answer.**—The historian Gibbon, in his "Decline and Fall of the Roman Empire," asserts that the patron saint of England was George of Cappadocia, the turbulent Arian bishop of Alexandria, torn to pieces by the populace in 360 A. D., and revered as a saint by his followers. This assertion, however, is authoritatively disproved by the historians Miener, Milman, and others. The true saint was George of Lydda, who was undoubtedly a veritable character, and is known to have been a native of Armenia, and to have been beheaded in Diocletian's persecution, April 23, 303 A. D. Critics are generally agreed that it is to this person that Eusebius refers in his "Ecclesiastical History" in speaking of "a man of no mean origin, but highly esteemed for his temporal dignities," who, when Diocletian's edict against the Christians was posted up in Nicomedia, "took it down and tore it in pieces." As the Emperor was then in the city, this deed brought upon the offender quick and cruel punishment. The fame of the noble sufferer for conscience sake soon extended through all the provinces where the Christians were represented. A Greek inscription dated 346 A. D., on an ancient church in Ezra, Syria, speaks of George as a holy martyr. St. Jerome, at near the same time, records his name in the martyrology of the church. Constantine the Great built a church over the tomb of the saint near Lydda, and in the next century a number of churches were built to his name. Pope Gelasius I., in 494, sanctioned the honors paid to this martyr, but declared the miracles ascribed to him in popular legends to be unworthy of credit. As to his connection with English history, Ashmole, in his "History of the Order of the Garter," says that King Arthur in the sixth century, placed the picture of St. George on his banners, and he was also honored in the country in Anglo-Saxon times. Under a monastery of St. George was founded at Thetford; St. George's, Southwark, was built a little later, and in the reign of the Conqueror a collegiate church of St. George was built at Oxford. In 1222 a council at Oxford decreed that St. George's should be a national holiday, and in 1330 Edward III. made him the patron of the Order of the Garter. The story of St. George and the Dragon may be regarded as a common allegory meant to express the triumph of the Christian over evil; or perhaps it is a confusion of the

identity of the patron saint with that of a mythical St. George of Coventry, whose story is given in ballad form in Percy's "Reliques." Richard Johnson, in his book, "The Seven Champions of Christendom," written about the middle of the seventeenth century, gives this story of St. George of Coventry. He was one of the heroes of the crusades. After fighting valiantly against the Saracens he went to Sylene, a city of Libya, where there was a stagnant lake infested by a huge dragon, whose poisonous breath "had many a city slain," and whose hide "no spear nor sword could pierce." Every day a virgin was sacrificed to it, and at length it came to the lot of Sabra, the king's daughter, to become its victim. She was tied to the stake and left to be devoured, when St. George came up and vowed to rescue her. On came the dragon, "breathing blood and flame," when the valiant hero thrust his lance into its capacious mouth and killed it on the spot. After encountering considerable opposition on the part of the young lady's proud relatives, and having been imprisoned in a dungeon, from which he miraculously escaped, young Lord George carried off the fair Sabra to England, where she became his wife, and they lived happily at Coventry, until their death. It is very possible that this popular tale was invented to account for the allegorical representation of the conflict of the true St. George and the spirit of evil, and thus illustrates the ignorant literal tendency of the age.

#### NAPOLEON II.

NELIGH, Neb.  
Tell something of the life of Napoleon II. What did he do? When did he die and where?  
J. STAFFORD.

**Answer.**—Napoleon Francois Charles Joseph, the son of the great Napoleon Bonaparte and Maria Louisa, Princess of Austria, was born in Paris March 20, 1811. His father's joy at his birth was unbounded. "It is a King of Rome," he cried, to the crowd of courtiers who pressed into his apartment to congratulate him on hearing the news. The infant prince was baptized in the Cathedral of Notre Dame, June 9, by his great uncle, Cardinal Fesch. His father bestowed on him the title of the King of Rome. After the reverses of 1814, when Napoleon was forced to abdicate his power, he designated his son as his successor on the imperial throne, and the child was recognized as such by the executive committee of the National Assembly. The Senate, however, ignored him and called Louis XVIII. to occupy the throne. Maria Louisa, therefore, removed with her child to the palace of Schonbrunn, near Vienna, where she remained until the powers had rearranged the affairs of Europe. The Duchy of Parma having been conferred on her, the ex-Empress went thither, while her son remained at the Austrian court with his grandfather, Franz I., who was much attached to him. This Emperor, in 1818, conferred on the young prince the title of Duke of Reichstadt—as succession to his mother's dominions was denied to him—and provided him with most able instructors. His military training was the object of special care, and in 1821 he was made commander of one of the Hungarian regiments at Vienna. However, the young man never



manifested any unusual strength of mind or will, and was always feeble in body. At the July revolution in 1830 his name was mentioned as a candidate for the French throne, but he manifested no desire to push his own claims, and the project was dropped. Destiny certainly had not appointed the poor youth to any exalted fate. His health grew yet more feeble, symptoms of acute phthisis developed, and he died at Schonbrunn palace, July 22, 1832.

#### THE LOSS OF THE BIRKENHEAD.

CHICAGO.  
Give an account of the loss of the ship Birkenhead.

Answer.—The Birkenhead was built at the port of that name. She was iron-plated and paddle-wheeled, and had engines of 556 horse-power. Not proving effective as a frigate, for which purpose she was first intended, her guns were taken out, and she was used as a troop ship. Jan. 7, 1852, she left Queenstown, having on board a number of troops for the Kaffir war in South Africa. She reached St. Simon's Bay Feb. 23. On the 26th she sailed for Algoa Bay, but when but a short distance out of the harbor, ran upon a sharp rock with such force that it cut through the hold and the ship began to fill immediately. A number of the soldiers were drowned in their berths, but the most, aroused by the shock, mustered on deck, and stood to receive orders. Part were sent to work the pumps to keep the vessel above water as long as possible, and meanwhile the women and children were calmly placed in the cutter, in charge of an officer, and pulled away to be out of the danger of a rush. There were but two other boats, and the capacity of all three would only admit seventy-eight persons, and there were 630 on the ship! Scarcely were the boats filled when the vessel struck the rock again and broke in two with the force of the shock. The fore part of the ship sank instantly; the stern, crowded with men, floated a few minutes, then went down. From the moment of the accident the resolution and coolness of all the soldiers were remarkable. One of the officers, who was among the saved, Captain Wright, said: "It far exceeded anything that I thought could be afforded by the best discipline. Every one did as he was directed, and there was not a murmur or a cry among them until the vessel made her final plunge. All the officers received their orders, and had them carried out, as if the men were embarking instead of going to the bottom. There was only the difference that I never saw any embarkation conducted with so little noise and confusion. When the vessel was just about going down, the commander called out, 'All those who can swim jump overboard and make for the boats.' We begged the men not to do as the commander said, as the boats containing the women and children would be swamped. Not more than three made the attempt." Under this heroic obedience to discipline, the whole mass of men were engulfed with the sinking ship. Those not sucked into the eddy of waves clung to the mast and yards of the vessel, and those of the officers who had life belts struck out for the shore. Others grasped floating spars and pieces of wood, and struggled to keep

on the surface of the waters. But the terrors of their situation were almost beyond description. The sea there, as they knew well, was filled with sharks, the coast was inaccessible for miles, not only because of heavy breakers and sunken rocks, but on account of immense masses of tangled sea-weed that filled the shallows. As they struggled through the breaking waves every few moments the cry of some poor fellow, dragged under the waves by a shark, broke out upon the air. Not more than forty or fifty men succeeded in reaching the shore. Exhausted and nearly naked, they had to drag themselves several miles over an arid sand waste, dotted with prickly shrubs, and under a burning sun, before they reached a farm settlement where they could procure help. All the boats available were sent out immediately to the scene of the wreck, but only four persons were found still alive in the water. The boats had drifted out to sea, and were all picked up during the day by passing vessels. Of the Birkenhead's freight of 630 souls, 184 only were saved—7 officers and 53 men and boys of the ship's company, and of the military passengers 7 women, 13 children, 5 officers, and 99 men.

#### SIGNS OF THE ZODIAC.

CALIFORNIA, Cal.  
Explain the signs of the Zodiac, and tell what effect they have on the human body and also on the vegetable kingdom.  
W. M. G.

Answer.—The Zodiac is the name which was given by ancient astronomers to an imaginary belt extending around the heavens, having for its middle line the ecliptic, which is the line of the earth's orbit, or the apparent path of the sun through the heavens. This belt was fixed at about eighteen degrees in width, extending nine degrees on each side of the ecliptic, for the purpose of including the orbits of all the planets then known—five in number—as well as the sun. Later discoveries have shown that this belt will not include the greatly inclined orbits of some of the asteroids, which are therefore known as the ultra-zodiacal planets. The stars in the zodiacal belt were grouped into twelve constellations, to each of which was assigned one-twelfth of the circumference of the circle, or thirty degrees. The value of this division into signs was to make it possible to define readily at any time the position of the sun and the planets. The constellations that gave names to the zodiac divisions were as follows: Aries, the ram; Taurus, the bull; Gemini, the twins; Cancer, the crab; Leo, the lion; Virgo, the virgin; Libra, the balance; Scorpio, the scorpion; Sagittarius, the archer; Capricornus, the goat; Aquarius, the water-bearer, and Pisces, the fishes. As one-half of the ecliptic is north and the other half south of the celestial equator, that is, the line where the plane of the earth's equator, if extended, would cut the heavens, the points of intersection of their planes are known as the equinoctial points. These points were regarded by ancient astronomers as immovable, and therefore that one at which the sun crosses the equinoctial from south to north, was fixed upon as the first point in the first division of the zodiac, the sign Aries. After the sun had traveled thirty degrees eastward in this division he entered the second sign, Taurus, and thus continued his course through all the signs, crossing

the equinoctial from north to south when he passed from the sign of Virgo into that of Libra. The sun entered the constellation Aries at the time of the vernal equinox, that is, when he crossed the equinoctial circle going northward, when the constellations of the zodiac were arranged by the astronomer Hipparchus, about 1,700 years ago. But the equinoctial points are not stationary, and do move slowly in the heavens, and thus the first division of the zodiac has been separated almost entirely from the constellation of Aries, and now corresponds with the constellation Pisces. The astronomers of modern times make but little use of the zodiacal signs. It is needless to say that the old ideas, survivals of ignorant beliefs in astrology, which regarded the zodiac signs as having some influence over men and animals, are now regarded as altogether baseless superstitions.

## RAILROAD STATISTICS.

BERNARDSTON, Mass.

1. Give table showing the mileage of the railroads of the United States by States, their valuation, capital stock, and gross earnings. 2. How are railroads taxed by the Federal Government, and how much do they pay annually? C. F. M.

*Answer.*—1. The appended table gives the information desired. Its figures are taken from Poor's Railroad Manual for 1887:

STATES & TERR.	L'th line.	Capital stock.	Cost of RR equipment	Gross earnings.
Alabama...	2,105	\$35,607,831	\$70,090,784	\$7,469,869
Arizona...	538	22,830,800	34,696,803	158,043
Arkansas...	1,586	37,644,249	29,542,763	3,464,054
California...	3,757	16,237,136	319,564,311	25,250,590
Colorado...	2,347	82,598,800	129,496,131	9,712,286
Conn'tic't.	992	36,764,145	48,391,161	12,269,816
Dakota...	290	5,559,000	10,818,000	70,436
Delaware...	305	7,067,464	25,581,465	1,220,796
Florida...	1,506	25,029,900	41,595,061	2,393,296
Georgia...	3,328	44,331,319	81,603,578	9,353,371
Illinois...	14,708	332,725,395	638,501,557	97,685,882
Indiana...	5,642	147,652,448	278,883,884	33,547,239
Iowa...	3,300	53,165,974	107,026,792	6,702,565
Kansas...	4,971	113,309,823	211,834,959	23,051,011
Kentucky...	2,763	75,195,472	158,543,588	11,889,225
Louisiana...	1,660	42,837,600	85,816,828	6,876,870
Maine...	1,229	18,427,413	40,348,100	5,269,182
Maryland...	1,246	46,313,224	93,522,155	13,078,692
Massach'ts	2,356	106,309,589	182,723,545	37,480,493
Michigan...	5,212	95,916,508	203,326,183	27,114,912
Minnesota...	6,703	180,496,249	345,725,142	29,685,733
Miss'ssippi...	645	10,131,977	19,449,585	1,141,815
Missouri...	6,806	207,311,505	344,131,964	37,363,491
Montana...	16	500,000	900,000	122,212
Nebraska...	2,895	65,672,000	184,122,611	19,618,473
Nevada...	508	12,052,284	14,778,729	956,908
N. Hamp...	884	16,766,400	23,774,474	2,192,922
N. Jersey...	1,875	120,663,270	24,008,497	24,697,443
N. Mexico...	971	75,881,100	120,655,421	1,778,710
New York...	7,649	444,732,161	824,430,374	73,360,906
N. Caro'a...	1,834	24,885,375	46,843,618	2,950,166
Ohio...	9,247	386,448,877	703,011,783	71,196,610
Oregon...	1,421	426,600,000	62,764,703	6,528,334
Pennsylv'a...	7,445	416,759,879	539,410,234	122,543,244
R. Island...	146	4,552,030	6,269,053	1,602,591
S. Carol'a...	1,733	17,250,335	34,104,169	4,946,989
Tennes'se...	2,805	82,712,960	154,252,255	10,688,168
Texas...	6,504	104,392,162	237,380,888	20,402,563
Utah...	1,298	21,348,777	43,593,408	4,094,750
Vermont...	862	19,865,900	34,130,322	3,838,714
Virginia...	3,006	109,117,034	193,148,636	17,123,190
Wash'g'ton...	120	1,076,000	2,715,471	167,291
W. Virgi'a...	681	29,468,372	31,498,920	1,213,762
Wisconsin...	7,085	94,162,661	240,142,855	28,174,270
Wyoming...	616	17,268,090	42,414,523	1,943,066

2. Only such railroads as have received land grants from the General Government are subject to Federal taxation. These pay taxes in the form of interest on bonds given for the land. Railroads are amenable to State taxation as property holders

only, except in some instances where a special levy is paid to the State for charter rights, as in the case of the Illinois Central Railroad.

## THE HEIGHT OF WAVES.

EVANSTON, Ill.

We often read of waves that are "high as mountains." How high have waves been actually known to rise in a storm? R. L. G.

*Answer.*—The story of waves that run mountain high is a very great exaggeration. Many important measurements have been made, all of which show that the common estimate of the height of waves is due to imagination and fear. The measurements of Scoresby, which are regarded as very accurate, proved that during storms waves in the Atlantic rarely exceed forty-three feet from hollow to crest, the distance between the crests being five hundred and sixty feet, and their speed thirty-two and one-half miles an hour. More recent observations taken in the Atlantic give from forty-four to forty-eight as the highest measured waves; but such heights are rarely reached, and, indeed, waves exceeding thirty feet are very seldom encountered. The monsoon waves at Kurrachee breakwater works were found to dash over the wall to the depth of thirteen feet, or about forty feet above the mean sea level. The greatest height of waves on the British coast were those observed in Wick Bay—so famous for the exceptionally heavy seas which roll into it—being thirty-seven and one-half to forty feet. Green seas to the depth of twenty-five feet poured over the parapet of the breakwater at intervals of from seven to ten minutes, each wave, it is estimated, being a mass of 40,000 tons of water, and this continually for three days and nights. During severe storms the waves used to ride high above the top of Smeaton Eddystone tower, while at the Bell Rock the seas, with easterly storms, envelop the tower from base to balcony—a height of 400 feet.

## TRUSTS.

CHICAGO.

Describe the nature and modus operandi of trusts. R. L. G.

*Answer.*—A trust is a combination for the control of the manufacture or sale of an article or articles. Its object is to secure to the present producers or handlers of any article, as lead, sugar, India rubber, straw-board, paper bags, cotton-seed oil, petroleum, etc., absolute control of the market, so that they may keep out all competition and hold up prices. The manner of working up these combinations is simple and direct. Certain persons engaged in some line of manufacture conceive the idea of buying up or controlling all the machinery and tools used in connection with their business. They induce the large manufacturers in the line to combine with them by the promise of increased profits, and when they have a capital large enough, they find it easy enough to buy up, control, or to crush the smaller or outside establishments. Naturally, the smaller concerns would be inclined to join in with the larger ones for their own advantage. It can not be said that trusts are immoral, but they are dangerous, for it is possible by their means to concentrate an enormous power in but few hands. The story of the Standard Oil Trust, the first of these



combinations to be formed, and its reputed purchase of legislators, as well as railroads, shows what may be possible when unscrupulous men get an engine like a "trust" into their hands. Trusts can not be called illegal, but they are extra-legal, for in the present condition of State and Federal laws there are no means of preventing any objectionable course of action which they may choose to adopt. A trust is not a corporation, and is not bound by the laws controlling incorporated companies. It has no charter, as a corporation has, to define its powers, nor books that must be subject to inspection by stockholders and government officials. It is the apparently irresponsible nature of the compact that has caused the people generally to look with suspicion upon the combinations known as trusts.

#### THE WHIPPING-POST IN AMERICA.

CHICAGO, ILL.

Is the punishment of the whipping-post still in existence in the United States? Give some account concerning this barbarous mode of punishment in this country.

INQUIRER.

*Answer.*—The history of the whipping-post in America begins with the history of European colonization on the Atlantic coast. Though indissolubly united with the slave system, it was here before the slave. In 1611 the London Company sent to Jamestown a code of laws for the colonists, in which whipping was made the penalty for a long list of offenses. It was not until eight years after this that the first slaves were brought by a Dutch man-of-war up the Chesapeake. But if the Virginian colonists whipped at Jamestown, so did the Dutch at Manhattan, and the Puritans at Boston. In 1654, when the Governor of New Sweden visited Fort Casimir, on the Delaware, part of the entertainment provided for the guests by the Dutch commandant was the whipping of three "jail-birds." In 1669 the Governor and council of New York ordered an insubordinate citizen, one Konigsmarke, to be publicly flogged and branded with the letter "R" on his breast. The whipping post was then in common use in England, and drew greater crowds than the play-houses. It is stated that at that time, "Gentlemen arranged parties of pleasure to Bridewell on court days for the purpose of seeing the wretched women who beat hemp there whipped;" but the "quality" of these gentlemen must have been more than questionable. No respect for the sex was allowed to exempt women from a share in the degradation of this punishment until later, and it is certain that women were publicly whipped in the city of New York as late as 1775. In 1785 a man convicted of horse stealing in Newcastle, Del., was whipped, put in the pillory, and had his ears clipped. In December, 1800, a woman convicted of receiving stolen goods, was publicly whipped, receiving twenty-one lashes on the bare back, and was branded on the forehead; and until fifty years later women were occasionally whipped in that State. In 1835 a free negro woman, being guilty of theft, received twenty-one lashes and was sold as a slave for seven years. The whipping of women for larceny and receiving stolen goods ceased to be legal in Delaware in 1855, but it was continued for certain other

offenses against morality. The last instance of woman-whipping in the State occurred in 1864, in the case of a young colored girl who had given birth to an illegitimate child. In 1873 a colored girl who had been convicted of murdering her unlawful infant, was sentenced by the Court to receive sixty lashes, but the Governor postponed the execution of the sentence two or three times to a more distant day, and finally postponed it indefinitely, and it was never carried out. But the punishment of the whipping-post for men is still sanctioned by the laws of Delaware, an instance occurring there as recently as December, 1887. In 1875 seventeen men were sent to the whipping-post in Newcastle County alone. It would be too tedious a task to follow the record of the use of whipping through the early history of all the States. The history of Ohio tells us that the first punishment decreed for a white man in the State was the whipping of a thief in the Miami settlement about 1786. In 1788 a code of laws was given to the colonists of Ohio, drawn up in the main by St. Clair, the new Governor. In these whipping was made the punishment for arson, burglary, obstructing authority, perjury, and theft, and it was ordered that a whipping-post and pillory should be set up in each county as organized. These laws held until 1799, when they were adopted without essential change by the territorial assembly. In 1805, when the young State adopted the same code with modifications, six offenses were made punishable with whipping. The revision of the State code in 1809 provided public flagellation for nine distinct offenses. In 1815 an act was passed abolishing not only the whipping-post, but also the pillory and stocks, as means of punishment. Other instances might be given to show how long the statute books of many States kept these barbarous laws. For instance, when a school for colored girls was opened in Canterbury, Conn., by Miss Prudence Crandall in 1833, the excitement and opposition of the town was great. A young negro woman who had come to the town to attend the school was ordered to leave, and to get rid of her and others, an old vagrant law, which had long been a dead letter, was resuscitated. This law required that whipping on the naked body, not exceeding ten stripes, should be inflicted on any person refusing to leave the town after ten days' warning. The girl stayed, however, and the town authorities did not dare to go to the extremity of inflicting the whipping. But, in spite of these discreditable instances, we think it may be safely stated that before 1860 the whipping-post had been abolished in all of the Northern States. In the Southern States it remained as an incident of slavery, but since the war its use has been rather exceptional than otherwise. In Georgia it has been forbidden by statute, but flogging is still relied upon in some of the other States, Virginia, South Carolina, and others, to keep in order petty offenders. In Delaware, as we have stated, the punishment has been handed down in all its pristine cruelty to the present day. The general abolition of the whipping-post has been rightly regarded as an advance in civilization, but to show how the ideas of men will

change, we may note the fact that in 1879 an attempt was made to introduce the whipping-post into the penal institutions of Missouri. The attempt failed, but in 1886 a law was enacted in Maryland to punish wife-beating with whipping. The same year a similar law was proposed and strongly defended in the Ohio Legislature, but was not passed. It has been suggested to provide this punishment in the other States for tramps as well as wife-beaters. Henry Bergh, the President of the Society for the Prevention of Cruelty to Animals, enthusiastically advocated the re-establishment of the whipping-post, asserting that a sound thrashing is the only thing that will do criminals any good.

#### TOUCHING FOR THE KING'S EVIL.

MERTON, IOWA.  
Give some account of the King's evil, and tell why it was so called. R. J. S.

*Answer.*—The disease of scrofula was called King's evil from a superstitious belief that prevailed in England that it could be cured by the touch of the reigning sovereign. This belief began in the reign of Edward the Confessor, 1042-1066, and seems to have obtained a hold on the popular belief through the idea of King Edward's peculiar sanctity. The custom, however, was taken from the French kings, who had claimed the same divine power ever since the time of Anne of Clovis, who reigned in the year 481. It is recorded that on Easter Sunday, 1686, Louis XIV. touched 1,600 persons, in the royal chapel in Paris. In England Henry VII introduced the practice of presenting the person touched with a small gold or silver coin called a touch-piece, and this was kept up till the custom was dropped in Queen Anne's time. The belief in this royal power was so genuine that there was a religious service for the ceremony, which remained in the English prayer-book until 1719. The Jacobites claimed that the power did not descend to William III. and Anne, because the divine hereditary right was not fully possessed by them, and they regarded the pretenders as gifted with the privilege. Charles Edward, the "Young Pretender," touched for the disease as late as 1745, when he was in Scotland, but the last person touched in England was the celebrated Dr. Samuel Johnson, when a child of 30 months old, by Queen Anne in 1712.

#### EIGHTY-EIGHTH INDIANA INFANTRY.

NEUVILLE, IND.  
Would like a history of the Eighty-eighth Indiana Infantry. J. PRESLER.

*Answer.*—The Eighty-eighth Indiana Infantry was mustered into the United States service Aug. 29, 1862, and ordered to Louisville. It was kept as part of the defense of that city until Oct. 1, when it was sent with the army of the Ohio in pursuit of Bragg. At Perryville the regiment was on the right of Rousseau's division and lost heavily. In November it was assigned to the Second Brigade, First Division, Army of the Cumberland. At the battle of Stone River it lost fifty-six in killed and wounded. It was in camp at Murfreesboro until June 24, 1863, when it was moved forward with the army. It was in the battle of Chickamauga, and subsequently at both Lookout Mountain and Missionary Ridge. In February it was with the advance

that took Tunnel Hill, Georgia. The following May it joined Sherman's army, and took a worthy part in the battles of the Atlanta campaign. After the capture of the city it started in pursuit of Hood, but was recalled and joined Sherman in his march to the sea. The movement from Savannah northward through the Carolinas was attended with much difficulty. The regiment was at the grand review in Washington in May, and June 7 was mustered out and left for home.

#### RESOLUTIONS OF 1798.

ENDICOTT, W. T.  
Give a history of the Resolutions of '98. Has their authorship ever been established? Benton's "Thirty Years" indicates that Madison was the author, while Greeley, in his "American Conflict," asserts that the author was Jefferson.

J. BALLAINE.

*Answer.*—The alien and sedition laws, enacted by Congress in the summer of 1798, met with much objection in some parts of the country. They originated with the Federalists, then in the majority in Congress, and were strongly opposed by the anti-Federalists, then called Republicans. By these laws the President was empowered to banish from the country any persons not citizens whom he might judge to be dangerous to the peace and safety of the country, or to imprison any such persons should they refuse to depart. He could also cause any person who conspired against a law of the United States, or wrote or published any false or wilfully malicious accusations against the President or either house of Congress, to be fined heavily or imprisoned. The unwise attempt that had been made to secure help for the Revolutionists in France, by means of French agents who had been sent over here to raise funds, etc., from the people, gave apparent cause for these laws. They were not generally approved by the people, however, and petitions came in from every part of the country urging their repeal. The Anti-Federalists wished to identify their party with the movement of opposition, and in the autumn of 1798 Mr. Jefferson and two well-known politicians of Kentucky, Wilson C. Nicholas and George Nicholas, met to discuss the matter. Mr. Jefferson declared his conviction that the laws were unconstitutional, and expressed a wish that Kentucky would join with Virginia in protesting against them on that ground. George Nicholas took up the suggestion immediately, and offered to have resolutions against the laws introduced into the Kentucky Legislature, if Mr. Jefferson would frame them. This Jefferson agreed to do on a solemn pledge from both the gentlemen present that they would never reveal the name of the author. He forthwith drew up a set of resolutions which in November were laid before the Kentucky Legislature, discussed and to some degree modified, and finally passed, with scarcely a dissenting vote, Nov. 14. Jefferson immediately sent a copy of them to Madison, for use in the Virginia Legislature. Madison took the hint, rewrote the resolutions, preserving their general drift, but rendering them less trenchant and less bitter than Jefferson's version. They were then introduced, through one John Taylor, into the Virginia Legislature Dec. 21, 1798, and passed Dec. 24. The House vote stood, 100 votes for, 63 against:



the Senate vote, 14 to 3. The minority in the Assembly dissented, and justified their views in a long address to the Virginia people. But Madison defended the resolutions in an able address, which was printed with them, and copies sent to all the Legislatures of the different States and to the Virginian members of Congress. The Kentucky resolutions were sent out in like manner. Concerning the doctrines embodied in these resolutions some of the States had nothing to say, but the five New England States, New York, and Delaware, replied, with emphatic and unqualified dissent. Virginia and Kentucky, therefore, thought it wise to explain their position, and they did so in new sets of resolutions adopted in 1799. These claimed that the doctrine that the General Government was the sole judge of its powers stopped nowhere short of despotism, and that, while the alien and sedition laws were accepted by the dissenting States, they could not cease to protest against them as palpable violations of the Constitution.

#### PRESIDENT TYLER AND HIS CABINET.

EVANSVILLE, Ind.  
 Explain the Cabinet troubles under Tyler. Why did Webster remain?  
 F. W. KISSEL.

*Answer.*—The name of John Tyler was placed on the Whig ticket with Harrison for reasons of policy, as he was a member of the nullification party of the South, whom it was desired to conciliate. It was known, however, that Tyler was hostile to one of the dearest projects of the Whigs—the re-establishment of the United States bank. The death of President Harrison just one month after his election elevated Tyler to the more responsible office of Chief Magistrate. In his message to the extra session of Congress, which met May 31, 1841, the new President alluded to the bank project, admitting the constitutional right of Congress to charter such an institution, but reserving his right to veto any provisions that seemed to him unwise. The Whig leaders, however, were disposed rather to force Mr. Tyler to serve in the ranks than to acknowledge him as leader of the party. A bill for a United States bank, therefore, drawn up on a plan furnished by the Secretary of the Treasury, was brought forward, and passed both houses Aug. 6. Aug. 16 the President vetoed it on the ground that the permission given in it to establish branch banks in the different States was dangerous and unjust to the States, and also with objection to other particulars. This veto caused the greatest excitement and rage on the part of the Whigs, not alone in Congress, but throughout the country. The leaders of the party, however, made another attempt to conciliate the President, and secure his assent to their favorite measure, and a new bill was framed which passed the House, Aug. 23, and the Senate Sept. 8. The President, however, was not ignorant of the angry expressions that had been heaped upon him, and coming to believe that the act was especially framed to entrap him into inconsistency, vetoed it also. Soon after this, the entire Cabinet, with the exception of Mr. Webster, resigned, and published statements of their reasons for so doing, reflecting severely upon the President's conduct. The action of Mr. Webster, in remaining, was justified because of the

critical condition of our relations with Great Britain at the time, on the subject of the north-eastern boundary. Negotiations on the subject were at the time in progress; but when these were complete and a satisfactory treaty had been arranged and ratified (August, 1842), Mr. Webster also resigned his place in the Cabinet.

#### NEW SOUTH WALES AND VICTORIA.

CLEVELAND, Iowa.  
 Give a brief and comprehensive history of the British colonies of Victoria and New South Wales, and statistics of their productions, commerce, etc.  
 O. C. ROBERTS.

*Answer.*—The entire eastern part of Australia, including the present colonies of New South Wales, Victoria, and Queensland, received the name of New South Wales from its first explorer, Captain James Cook, in 1770. In January, 1788, the British government, having decided to establish a penal colony in Australia, sent thither 850 convicts, under 200 soldiers and officers. These were disembarked at Port Jackson, near Botany Bay, and on the site of this, the first white settlement on the Australian continent, now stands the magnificent city of Sydney. Subsequently other convicts and criminals were sent out and placed in other points. The early history of these colonies was marked with much turbulence, owing to the lawless character of the settlers. In 1813 the interior of New South Wales was explored, and the great plains there being regarded as well adapted for sheep-farming, several breeds of sheep, including the celebrated Merinos, were introduced, and the foundation of a great industry laid there. About this time attention was drawn to the country as a desirable point for general emigration, and when, after the battle of Waterloo, large numbers of discharged soldiers and sailors returned to Great Britain, and being unable to find employment, were many of them in much distress, benevolent persons exerted themselves to aid these to go out to Australia and settle. As there was continual trouble between the convict colonies and the others, the British government in 1837 abolished penal transportation to New South Wales, restricting it to Van Diemen's Land, but at the latter place it was abolished in 1851. The great impetus to Australian immigration was given by the opening of the gold mines near Bathurst on the Macquarie River, in 1851. Subsequent discoveries of the precious metals at various other points were followed by a great influx of settlers, and the country grew rapidly in importance. A constitution was granted to New South Wales in 1855, which vested the legislative power in a parliament of two houses, the upper house or council, nominated by the British government, and the lower house or assembly, elected by the people. The executive power was placed in a governor appointed by the Queen. Concerning the present condition of New South Wales, it may be said that it has an area of 310,700 square miles and a population estimated in 1886 at 1,001,966, about 8,000 aborigines and half-breeds included. The revenue of its government in 1886 was \$37,971,500; its expenditure, \$45,394,345. The public debt was \$205,171,245, mainly incurred through public improvements. The public re-

enue is obtained from the sale and rent of public lands, from railways, and from customs duties, the latter yielding about one-fourth of the total annual receipts. The only direct tax is a stamp tax. The great industries of the country are farming and stock raising. The land leased for pastoral purposes in 1886 amounted to 211,174 square miles; the land held for agricultural purposes to about 1,000,000 acres, all cultivated. The staple article of export is wool, of which in 1886 a total of 134,229,740 pounds were exported to Great Britain alone. Other exports are sheep, cattle, horses, hides, coal and other minerals. The total annual value of the minerals of the country is estimated at \$15,000,000. The soil of the country is generally rich, and the climate is genial. There were, in 1886, 1890 miles of railway opened, and 20,797 miles of telegraph in use. There are 3,694 manufactories of various kinds in the country employing 45,783 persons. In the government and postoffice savings banks there were in 1886 credits to the amount of \$17,519,015, for 111,944 depositors. The first settlement in what is now the colony of Victoria, was made at Port Philip in 1835. The discovery of gold in New South Wales in the early part of 1851 was followed by discoveries, in the latter part of the year, of deposits of far greater value at Ballarat and Mt. Alexander, in Victoria. The effect of these discoveries on the population of Australia is shown by the fact that the European population of the whole continent at the close of 1850 was estimated at 50,000. In 1852 it was 250,000. Victoria was separated from New South Wales in 1852, and in 1854 a constitution was granted by Parliament to the colony. The legislative authority was vested in a parliament of two chambers, both elected by the people, under certain property restrictions. The governor is appointed by the Queen. Victoria has an area of 87,884 square miles, and a population in 1886 of 1,009,753, including about 12,000 Chinese and aborigines. The revenue of the government in 1887 was \$33,669,335; its expenditure, \$33,329,315. The public debt was \$165,595,820, incurred in public improvements almost entirely. The sources of public revenue are customs, excise, and stamp duties, lands and railways. Fully one-third of the revenue is derived from customs duties alone, and from the customs and direct taxes together, nearly one-half. The staple exports of the colony are wool, gold, breadstuffs, live stock, and leather. The annual gold export is valued at about \$9,771,630, the export of wool at \$24,998,310. There are estimated to be over 2,000,000 acres under cultivation for various agricultural purposes. About 11,000 square miles are suitable for stock-raising. There were 1,880 miles of railway completed in Victoria in June, 1887, and 10,111 miles of telegraph wires. The total number of manufactories is 2,770, employing 45,773 persons. We have no statistics of the savings of the people.

#### THE JEWISH FAITH.

Kindly state, with as much fullness as your space will afford, the essentials of the Jewish religion, its days of observance, customs, etc. I. F. M.

Answer.—In their religious observances modern Jews adhere, as closely as their scattered condition will allow them, to the rules of the Mosaic dispensation.

Their service consists chiefly in reading the law in their synagogues, together with a variety of prayers. They abstain from the meats prohibited by the Levitical law, and they continue to observe the ceremonies of the Passover, as nearly as possible, as their ancestors did. They offer prayers for the dead, because they believe that the souls of the wicked go to a place of temporary punishment, where they remain under trial a year, and they think that very few will be condemned to suffer eternally. We give a summary of the confession of faith, in which all orthodox Jews must live and die. It is made up of thirteen articles, and was drawn up in the eleventh century by a celebrated rabbi named Maimonides. These articles declare in substance: (1) That there is one God, creator of all things, who may exist without any part of the universe, but without whom nothing can maintain existence; (2) that God is uncompounded and indivisible, but different from all other unities; (3) that God is an immaterial being, without any admixture of corporeal substance; (4) that God is eternal but everything else had a beginning in time; (5) that God alone ought to be worshiped, without mediators or intercessors; (6) that there have been inspired prophets, and may be more; (7) that Moses was the grandest prophet that ever appeared; (8) that the law of Moses was, in every syllable, dictated by the Almighty, not only in its written letter but in traditionary exposition; (9) that this law is immutable, neither to be added to nor diminished; (10) that God knows all our actions and governs them as He will; (11) that the observance of the law is rewarded and its violation punished in this world, but in a greater degree in the next; (12) that a Messiah is yet to appear, the time of whose coming may not be prescribed or foretold; and (13) that God will raise the dead at the last day and pass judgment upon all.

#### LONGFELLOW'S PSALM OF LIFE.

Under what circumstances was Longfellow's "Psalm of Life" written, and who is the "Psalmist" referred to? QUERIST.

Answer.—We are told in the Life of Longfellow, written by his brother, that the Psalm of Life "was written one bright summer morning, hastily, upon the blank portions of a note of invitation, and was dated July 26, 1838." The original draft, given in the volume mentioned, shows many erasures and interlineations. The poet enters the fact of writing it, with no further remark concerning it, in his diary, but some time after wrote to a friend: "I kept it some time in manuscript, unwilling to show it to any one, it being a voice from my innermost heart at a time when I was rallying from depression." Then, as if to try it, at the close of a lecture on Goethe, Mr. Longfellow read the poem to his pupils. It was published in October, 1838, in the *Knickerbocker Magazine*, and at once attracted attention. It was copied far and wide, and many were the grateful letters sent to the poet by those who had been inspired to renewed and better lives by his noble words. It is said now that the ideas of the poem are commonplace, but to this it has been well replied that it is this poem which has made them so familiar to all. His biographer says: "Those who remember



its first appearance know what wonderful freshness it had. Young men read it with delight; their hearts were stirred by it as by a bugle summons. It roused them to high resolve, and wakened them to a new sense of the meaning and worth of life. They did not stop to ask critically whether or not it passed the line which separates poetry from preaching, or whether its didactic merit was a poetic defect. It was enough that it inspired them and enlarged their lives." The question, who is the "Psalmist" in the sub-title of the poem as originally written—"What the heart of the young man said to the Psalmist"—has often been asked. Since none of the Hebrew psalms can be mentioned as containing the idea of the emptiness of life here combated, it has been supposed that the word should have been "the Preacher" in reference to Ecclesiastes. But we have the author's own word, written in later years, that "the Psalmist was neither David nor Solomon," but simply the poet himself, the writer of this psalm. It was the strong and courageous heart of the young man replying to and refuting the poet's mood of despondency.

#### DON CARLOS AND THE CARLISTS.

CHICAGO.  
What right had Don Carlos on the throne of Spain in the Carlist rebellion led by General Cabrera? What became of him, and how is the present Don Carlos related to him? J. M.

*Answer.*—Don Carlos Maria Isidor de Bourbon was the second son of Charles IV. of Spain, born March 29, 1788. King Charles being very unpopular, abdicated in favor of his son Ferdinand in 1808. The same year Napoleon deposed Ferdinand, and put his brother Joseph Bonaparte on the Spanish throne. After the expulsion of the French from Spain in 1813 Ferdinand reascended the throne. This Prince was feeble both in mind and body, and as he remained childless, though he had been married several times, the constitutional party began to hope that Carlos might succeed. In 1829, however, the indefatigable Ferdinand married his fifth wife, Maria Christina of Austria, who the following year gave birth to a daughter, the Infanta Isabella. As the Salic law, excluding females from the succession, had been abrogated in Spain, the hopes of the Carlists were apparently quite overthrown. In 1832, during an illness of the King, some of the Carlist leaders prevailed upon him to reinstitute the Salic law, but upon his recovery he revoked it again, thus destroying the hopes of Don Carlos a second time. To relieve himself of the presence of this ambitious brother, Ferdinand banished him, but before he was well out of the country the King himself died, Sept. 29, 1833. Don Carlos was now recognized as the heir to the throne by a very large following, but Maria Christina, the Queen Regent, immediately concluded with Great Britain, France, and Portugal the so-called quadruple alliance, the effect of which was to exile Don Carlos and his partisans, known as the Absolutists, from Spain and Portugal. In June, 1834, Don Carlos embarked for England, but in the following month he returned to the continent, and in disguise made his way through France into Spain, and joined his adherents

in the mountains. The leader of the Carlist troops at that time was General Don Ramon Cabrera, an officer of much ability, daring, and full of resources, and as cruel as he was bold. Though the claims of Don Carlos to the throne were unanimously rejected by the Cortes in 1836, Cabrera's energy so appalled the royalist party that when, in 1838, this daring General threatened the capture of Madrid, the triumph of the Carlists seemed at hand. All that had been gained, however, was lost through the treachery of one of his officers, General Marotto, and Don Carlos was forced to flee from Spain. Cabrera held out in the mountains until 1840, when he, too, was compelled to take refuge in France. In 1844 Don Carlos abdicated his rights, much to General Cabrera's disgust, in favor of his eldest son. The former went to live in Italy, and died at Trieste March 10, 1855. Cabrera, after the failure of another attempt in behalf of absolutism in 1843, betook himself to a retired village in the Pyrenees, where he married a wealthy English lady, and lived quietly until his death in 1877. The second Don Carlos, son of the first, resided in England, where he was known as the Count of Montemolin. He made an attempt, on hearing of the rising of 1848, to pass in disguise through France into Spain, but was captured. When the Carlist insurrection of 1860 broke out the Count de Montemolin and his brother were both arrested and imprisoned, but were liberated after the former had signed a renunciation of all his claims to the Spanish throne. He died in 1861. The present upholder of the Carlist pretensions is a grandson of the first Don Carlos, a son of Don Juan, his second son. On his behalf there have been several Carlist risings in 1869, 1870, and 1872. The disordered condition of government brought about by the vicious rule of Queen Isabella, more than once seemed to give much strength to the Carlist claims, but these were never approved by the Cortes, and the army always held by the direct succession. After the abdication of King Amadeus in 1873, Don Carlos himself headed a movement in his own behalf. This proved to be a very formidable attempt, and kept the northern provinces of Spain in great confusion until the beginning of 1876 when it was finally overthrown. On the death of King Alfonso in 1886, there was much fear that Don Carlos would use his influence against the Queen Regent and for his own claims, but he forebore to do so, and the Carlist party has tacitly, if not openly, accepted the regency and the rights of the infant King.

#### SEVENTH INDIANA CAVALRY.

INDIAN CREEK, Ark.  
Give a brief history of the Seventh Indiana Cavalry. A. C. WAGGONER.

*Answer.*—The Seventh Indiana Cavalry was raised in the summer of 1863, its organization being completed Oct. 1. Its commander was Colonel J. P. C. Shanks. It was stationed at Camp Shanks, Indianapolis, until Dec. 6, 1863, when it was sent on to Union City, Tenn., and assigned to the First Brigade, Sixth Division, Sixteenth Army Corps. It was with General A. J. Smith in his expedition after Forrest in December. The marching was severe, and two or three

times they had hard fights with the enemy. The regiment lost eighty-four men in killed, wounded and missing during the expedition. Having returned to Memphis, it was soon after called upon to protect the rear communications of Sherman's army as it moved southward against Atlanta. It took part in a severe fight at Guntown, Miss., June 10, 1864. It was sent back to Memphis, and guarded the railroad there until November, when it crossed into Arkansas to join the pursuit of Price. It followed that active rebel across the State of Missouri, but had no opportunity to engage him. It was then sent back to Tennessee, and started with Grierson's raid into Mississippi. After the fight at Egypt Station it returned to Memphis, Dec. 21, 1864. It was kept guarding railroads in that vicinity till June, 1865, then was sent down to Alexandria, La., then on to Hempstead, Texas. Early in 1866 it was mustered out and went home.

#### THE DESIGN OF THE AMERICAN FLAG.

CARPENTINE, Cal.

Who was the designer of the American flag? I have seen it credited to different persons.

QUERIST.

*Answer.*—The origin of the American flag has been made the subject of much discussion. The earliest standards of the colonies when the first movements toward separation from the mother country began were of various devices. At the union flag raising at Cambridge, Mass., Jan. 2, 1776, to celebrate the organization of the army, the ensign of England, the crosses of St. George and St. Andrew, was placed on the union, and the field was formed of thirteen alternate red and white stripes, emblematic of the thirteen colonies. The earliest known use of the thirteen stripes, however, was on a banner or standard presented to the Philadelphia Light Horse in 1775. The stripes, which were blue and white, formed the union of this flag; its field was crimson, with an elaborate emblematic design in the center. Washington was escorted from Philadelphia to New York, on his way to take command of the army at Cambridge, by this regiment, and no doubt admired the design and blending of colors in their standard. The earliest naval flags showed thirteen alternate red and white stripes, some with a pine tree upon them; others with a rattle-snake, with the favorite motto, "Don't tread on me." As the necessity for a National flag had come to be generally felt, June 14, 1777, the Continental Congress adopted the following resolution: "*Resolved*, That the flag of the United States be thirteen stripes, alternate red and white; that the union be thirteen stars, white on a blue field, representing a new constellation." Thus, says Preble, "Full fledged, without previous debate, the flag was flung, a new constellation, among the nations." The stripes of the flag are said by some to have been probably borrowed from the Dutch, others find their model in the flag of the East India Company, and yet others think they were taken from the stripes on the coat of the soldier. Many writers have noted the resemblance of the flag to General Washington's coat of arms, on which was a shield having four stripes surmounted with a row of three stars. To this it is objected that Washington did not select this de-

sign for the standard of his life guard, as he would probably have done had it been taken from his arms, nor is there any mention made in his letters of a connection between the armorial bearings of his family and the National flag. If such a connection existed in the minds of those who actually designed the flag, it is very doubtful whether the attention of Washington was ever called to it. Concerning the design of stars for the Union of the flag, Lieutenant Preble, in his "History of the United States Flag," a work showing most painstaking and intelligent research, says: "Our revolutionary fathers, when originating a flag, no doubt met with difficulty in finding a device at once simple, tasteful, inspiring, and easily manufactured. The number of States whose unity was to be symbolized was a stumbling block. The stripes represented them; but what could be found to replace the crosses emblematic of the union of the kingdoms of Scotland and England, whose authority they had renounced? The rattle-snake, which had been used for a time as a symbol of the necessity of union and defiance, rather than of union itself, was repulsive to many, from being akin to the tempter of our first parents, and the cause of their expulsion from Paradise, bearing also the curse of the Almighty. One of the best devices significant of union was a circle of thirteen mailed hands issuing from a cloud, and grasping as many links of an endless chain. An instance of this device existed in the flag or colors of a Newburyport company, on exhibition in the National Museum at Philadelphia in 1876. It had a pine tree in the center of the surrounding links. A mailed hand, grasping a bundle of thirteen arrows, had been a device used by privateers, but that was a sign of war and defiance rather than of union and power. A knot with thirteen floating ends was the beautiful device, signifying strength in union, of the standard of the Philadelphia Light Horse. A checkered union of blue and white or blue and red squares might have answered, but the odd number of the colonies prevented that or any similar arrangement. Thirteen terrestrial objects, as eagles, bears, trees, etc., would have been absurd, and equally so would have been thirteen suns or moons; besides the crescent was the chosen emblem of Mohammedanism, and therefore unfitted to represent a Christian people. Thirteen crosses would have shocked the sentiment of a portion of the people, who looked upon the cross as an emblem of popish idolatry. There remained only the stars and the creation of a new constellation to represent the rising republic. No other object, heavenly or terrestrial, could have been more appropriate. They were of like form and size, typifying the similarity of the several States, and grouped in a constellation representing their unity. It will probably never be known," Lieutenant Preble goes on to say, "who actually designed our union of stars, for the record of Congress is silent concerning any debate on the subject, and no mention of it is made in any of the voluminous correspondence and diaries of the actors of that period." Lieutenant Preble gives a solution to a query that has been often asked in



vain—to-wit, why the stars on our banner are five-pointed, while those on our coins are six-pointed. He says that this difference exists because the designers of our early coins followed the English, and the designers of our flag the European custom. "In the heraldic language of England the star has six points; in the heraldry of Holland, France and Germany the star is five-pointed."

#### THE SOLOMON ISLANDS.

ONEIDA, Kan.  
Give a history and description of the Solomon Islands, and some account of their people.

C. SHINN.

*Answer.*—The Solomon Islands constitute a group in the South Pacific, lying southeast of New Britain and east of New Guinea, extending in a southeast direction between latitude 4 degrees and 11 degrees south, and longitude 154 degrees to 162 degrees east. These islands were first discovered and explored by the Spanish navigator Mendana, in 1568. He named them Solomon Islands on the imagined idea that the riches of Solomon's temple had been brought from them. While on his way to colonize them in 1595, he died, and the islands were not again visited until they were rediscovered by Carteret, in 1767. They were visited several times during the latter part of the eighteenth century, and parts of the coast line of the larger islands were surveyed, but between 1794 and 1838, they became almost forgotten. After the latter date, the survey of the coast was renewed, and both traders and missionaries endeavored to settle on the islands. Neither met with much success, however, and little was heard of the islanders save accounts of the murders and plunders perpetrated by them. In 1845 some French missionaries went thither in charge of Mgr. Epaulle, a notable dignitary of the church, but their leader was killed by the natives soon after landing. There is no doubt, from the accounts given, that the natives practiced cannibalism. In 1848 the French mission was abandoned. Some twelve or fourteen years later, the English Church established a mission on the islands, in charge of native teachers from other islands that had been Christianized. In 1881 the French Catholic mission was again resumed. There never has been any white settlement of any permanency, on the islands. The Solomon group is composed of seven larger islands, and a great number of small ones, the area of the whole being estimated at about 10,000 square miles. The shores of the group are generally low, and bordered in some places with mangrove swamps, but several of the islands are traversed in the interior by mountains of considerable height. Numerous streams flow from the hills and the tropical atmosphere is cooled with abundant rains. The soil is very fertile; bananas, yams, sugar cane and ginger are cultivated, and the bread-fruit, cacao and clove trees abound. The islands are mainly inhabited by negritos though there are some Malays in the northern part. They are a small, sturdy race, with crisp, dark, woolly hair, projecting brows, deeply sunk eyes, short noses, and moderately thick lips. Of their manners and customs very little is known. They are broken into numerous clans, which are

almost constantly at war. They are cannibals, but to what extent they carry on this practice is unknown. They live in square, strongly built houses, with high, projecting roofs. Within they have floor-mats on which to sit and sleep, and bowls from which to eat, but little else. Clothing is of the scantiest, both sexes being almost and sometimes wholly naked. Little is known of the form of religion practiced, but the people seem to pay honor to departed spirits, and in many villages there are large halls, called spirit-houses, which are often decorated with taste and skill. The people show some ability in carving, also in the manufacture of their canoes and weapons of war. They also make girdles of beads or shells, and bracelets, combs, and head-dresses of feathers, beads, or carved tortoise shell. They also make rude instruments of music, pan-pipes and jewsharps, and show much fondness for music and dancing. They are much addicted to chewing the betelnut, and drink arrak, an intoxicating drink made from the palm-tree. So far as their moral traits are concerned, they are crafty, thievish, and revengeful, but are easily influenced by kindness, and are grateful to those who treat them well.

#### SOCIETY FOR PSYCHICAL RESEARCH.

CALLAWAY, Neb.

Is it true that there is an organization of learned and scientific men, formed for the purpose of investigating the mysterious phenomena of to-day? If so, what is the result of their investigation up to the present time?

N. B. V.

*Answer.*—The above query doubtless has reference to what is known as the "Society for Psychical Research." This was first founded in England some years ago, under the presidency of Professor H. Sedgwick, of Cambridge University. Its purpose was that of "making an organized attempt to investigate that large group of debatable phenomena, designated by such terms as mesmeric, psychical, and spiritualistic." Six committees were appointed to examine (1) the nature and extent of any influence which may be exerted by one mind upon another otherwise than through the recognized sensory channels; (2) hypnotism and mesmerism; (3) obscure relations between living organisms and electric and magnetic forces; (4) haunted houses and ghosts; (5) spiritualism; (6) for the collection of existing evidence in connection with these subjects, and especially in connection with apparitions at the moment of death, or otherwise. A special committee was also appointed in 1885 to investigate the remarkable occurrences which the Theosophical Society claimed to have witnessed. All these committees, however, were subsequently dissolved, and experimental investigation and the collection of evidence left in the hands of individual members, the result of their inquiry to be embodied in papers and read before the society, and also, if they desire, to be published by them. The society has published reports containing papers on thought reading, or mesmerism, on apparitions and haunted houses, and on many other similar subjects. It has a membership of some 700, publishes a monthly journal, and has already gathered quite a large library of works in various languages, all bearing on topics

of a more or less mysterious character. Articles on various subjects have also been contributed by members of the society to various magazines. It can not be said that all this work has led to any real result, nor that it is likely to lead to any. All that the "investigation" has done has been to bring together a mass of so-called evidence in the form of testimony from persons who claim to have seen or experienced something abnormal, or out of the common way. No attempt has been made to sift the evidence as a whole, or to follow up any single instance brought forward, to ascertain whether the supernatural character of the appearance or experience has any foundation outside of the imagination of the person recounting it. There is much evidence, often accepted by the unthinking as valuable, which is yet of such intrinsically worthless character that a ton of it would not weigh more than an ounce, to speak metaphorically. The society, therefore, has acted wisely in venturing, with the publication of their collected "evidences," very few deductions therefrom. From the English parent society the movement for psychical research has spread. There is a similar society in this country, with headquarters at Boston and branches in New York, Philadelphia, and others. The matter accumulated by these societies is interesting, but has obviously little scientific value.

#### THE GREAT EASTERN.

What has become of the remarkable ship known as "The Great Eastern"? Give a history of the vessel, its first building, and dimensions. **QUERIST.**

*Answer.*—The famous Great Eastern was beached on the shore of the Mersey river, near Liverpool, on Aug. 26 last. Her eventful career may be said to be now ended, for she is to be broken up and sold to the junk dealers. This vessel was remarkable as being the largest steamship ever built. She was 692 feet in length, and 83 feet in breadth. Her weight was 12,000 tons, and her capacity 12,000 tons, making her displacement 24,000 tons, an enormous total for an unarmored merchant vessel. As early as 1853, this great vessel was projected for the East India trade around the Cape of Good Hope. There were then no accessible coal mines in South Africa, and the Eastern Steam Navigation Company wanted a vessel that could carry its own fuel to India and return, beside a large number of passengers and a great cargo. The vessel was designed by Mr. I. K. Brunel, and was built at the ship-yards of Messrs. Scott, Russell & Co., Millwall, near London. The operation of launching her lasted from Nov. 3, 1857, to January 31, 1858. A new company had to be formed to fit her for sea, as the capital first subscribed for her had all been spent. She was fitted up to convey 5,000 persons from London to Australia—800 first-class, 2,000 second-class, and 1,200 third class. She had besides capacity for 5,000 tons of merchandise and 15,000 tons of coal. Curiously enough, after all these vast preparations, the ship, during all of her varied career, was never used in the East India trade at all. From the first she was unfortunate. In a test trip from Deptford to Portland Roads in

1850, an explosion of one of the funnels occurred, when ten firemen were killed and many persons were wounded. The steamer started on her first trip from Liverpool to New York, June 17, 1860, making the trip in eleven days. She made her return trip in August in ten days. She made a number of trips to and from New York during the three years following, but owing to the lack of freight at profitable rates, she was a source of loss to her owners. In 1864 she was chartered to convey the Atlantic submarine cable, carried the first cable in 1865, which broke in mid-ocean, and also that of 1866, which was laid successfully. During this time also the British government occasionally employed her as a transport ship. In 1867 she was again fitted up for a passenger vessel to ply between New York and Europe, sailed for New York March 26, 1867, with accommodations for 2,000 first-class passengers, and returned with 191, and was immediately seized by the seamen as security for their unpaid wages. After this matter was adjusted the vessel was leased by a cable construction company. She laid the French Atlantic telegraph cable in 1869, went to the Persian Gulf and laid the cable from Bombay to Suez in 1870, in 1873 laid the fourth Atlantic telegraph cable, in 1874 laid the fifth, and was further used to some extent in cable construction. When there seemed to be no more use for her in that line she was made to serve occasional purpose as a "side-show," as when she was taken to New Orleans for exhibition to the visitors to the New Orleans Exposition of 1885-86. After being taken back the vessel was tried by the government as a coal barge, but proved too unwieldy to do good service and so was condemned to its present melancholy fate.

#### AUTHOR OF THE DECLARATION OF INDEPENDENCE.

**CHICAGO.**  
Who was the author of the Declaration of Independence? I have seen it stated that Tom Paine was the moving spirit in the authorship, but doubt the truth of it. **INQUIRER.**

*Answer.*—The struggle of the American colonies against Great Britain was begun without any general idea of pushing the matter to a separation from the mother country. Though the idea of forming an independent government was favored in New England, it was so distasteful to the other colonies that Congress formally disavowed it, July 6, 1775. However, the idea gained ground largely during the following year, and no one thing aided more in its spread than the publication of Thomas Paine's pamphlet "Common Sense." This struck the keynote of the situation by advocating, with forcible logic, an assertion of independence on the part of the colonies, and the formation of a republican government. The Pennsylvania Legislature so well appreciated the value of Paine's pamphlet that it gave him a grant of \$2,500 in consideration of it. As Jefferson was a reader and an admirer of Paine, it is possible that he received more or less inspiration from the pages of "Common Sense," for there is no question as to Jefferson's authorship of the immortal Declaration. In May, 1776, the Virginia convention instructed its delegates to propose a resolution for independence. This was done June 7 by Richard Henry Lee, and after some debate the resolution



was referred, June 10, to a committee of five, which was empowered to draw up a declaration. This committee consisted of Thomas Jefferson, John Adams, Benjamin Franklin, Roger Sherman, and Robert R. Livingston. Jefferson was no orator, but he was known to be an able writer, and he was appointed to make the draft. When submitted to the others his draft was accepted, with a few changes, and was then laid before Congress (July 3), which body, after some debate, passed it without alteration. The changes made by the other members of the committee were omissions rather than alterations, so that the whole document, as we have it now, contains hardly any words which were not those of Jefferson. There is every reason to believe that the words "Author of the Declaration of Independence," placed on Jefferson's tomb at his own request, assert a just claim.

#### THE CHRISTIAN AND OTHER ERAS.

WILDWOOD. III.  
Does the Christian era reckon time from the birth of Christ? If not, from what period of his life?

W. S. G.  
CHICAGO.

How was time reckoned previous to the Christian era? And what reckoning is now followed by those races that are not Christianized?

STUDENT.

Answer.—The Christian era was not adopted until the sixth century after Christ. Up to that time the Christians followed the computations of the various countries in which they dwelt. The Christian era is also known as the Dionysian era, because it was proposed by Dionysius Exiguus, a learned monk of Rome. This era counts the time from the year of Christ's birth, but earlier and later calculations do not agree concerning the year in which that event took place. Dionysius fixed it as the fourth year of the 194th Olympiad of the Greek chronology, and the 753d year from the foundation of Rome by the chronology of the Romans. By later computations, however, it has been ascertained that Christ was probably born several years earlier than this, and modern chronologers place Christ's birth in the year 4 before Christ. The Christian era was used in Italy to some extent during the sixth century, and thence found its way but slowly throughout Europe. The first sovereign to use it was Charlemagne, but it was not adopted by the popes until the eleventh century. It is now used in most Christian countries. By it time before Christ is known as so many years B. C., and time since by the number of the year A. D. (anno domini, the year of our Lord). As to other computations of time, they have been many. The Hebrews used several eras at different times; first from the institution of the laws of Moses; afterward from the building of the temple; then from the Babylonian captivity. They then adopted, during the times of the Maccabees, the era of the Seleucidæ, which began from the year when Seleucus Nicator gained the sovereign power in Asia, about 312 B. C. The Jews kept this era until 1040 A. D., when, being expelled from Asia, they began to date from the creation of the world, which they fixed at B. C. 3761. This reckoning they used in the compilation of the Talmud, and still adhere to. It is given in chronological tables as A. M., anno mundi (the year of the world). The

ancient Greeks computed their years in groups of four, which they called Olympiads. These began in 776 B. C., the name referring to the Olympic games held every four years. Any date was fixed by the number of the Olympiad and the number of the year in it, as the third year of the fifteenth Olympiad, and so on. The Olympic games were abolished in the fourth century, A. D., and the reckoning by Olympiads soon fell altogether out of use. The ancient Romans reckoned from the founding of their city. That date, designated according to our present chronology, was April 21, 754 B. C. They expressed it by the letters A. U. C. (ab urbe condita, "from the founding of the city.") In later Rome, the Era of Diocletian, dating from the accession of the emperor of that name to the throne, was generally used. This also was adopted and used for many years in Egypt. The Christians also largely used it under the name of Era M. r-tvrum, referring to the martyrdoms of Diocletian. In the days of Constantine the custom began of counting the years by indictions. A cycle of indiction was a period of fifteen years, and the first year of the first indiction is generally considered to correspond with the year 313 of the Christian era. This method of reckoning was very common throughout mediæval Europe, previous to the general adoption of the Dionysian era. In Spain, from the fifth to the fourteenth century, the Christian era being adopted at the latter date, time was reckoned by the Era Hispanica, which began with the year 38 B. C., when Spain was conquered by Augustus, the Roman Emperor. The Era of the Seleucidæ, above mentioned, long in use in Western Asia, is still followed in the church year of the Syrian Christians. The Byzantine era was used in the Eastern Empire, and is still in use with the Albanians, Servians, and modern Greeks. This begins with the creation of the world, which it fixes 5,508 years before the Christian era. The Mohammedan era, which is used by all the Mohammedan nations, dates from the flight of Mohammed to Medina, July 15, 622 A. D., which is called the Hegira. In Russia the church uses the Byzantine reckoning, but in civil life and historically the Christian era is used, adhering, however, to the old style, which was in vogue before Pope Gregory reformed the calendar and which differs now by twelve days from the reckoning of Western Europe. The modern Persians date not from the Hegira, but from the accession of the Shah Yezdegird, about 632 A. D. This era is also used by the Parsees of India. The Armenians date from 552, the year of the council of Tiber, which separated the Armenian from the Greek Church. The Hindoos have four different eras; the Kaliyug, dating from 3101 B. C.; the Viceramaditya, 56 B. C.; the Salivahana, 78 A. D., and the Fuslee, 690 A. D. The Chinese for chronological use, have a series of yearly, monthly, and daily cycles of sixty. Each year, month, and day has its name in the cycle, and by compounding these names, the year, month, and day may be expressed in one date. The first cycle is dated back to 2277 B. C. Chinese historians, for two thousand years, have always dated from the year of the accession of the reigning Emperor. A name is

given to each reign, and its years reckoned consecutively, and a register of these eras is kept so that the chronological year can be readily ascertained by consulting it. Most barbarous nations reckon from the accession of a king or dynasty, or some remarkable event in their history.

#### THE SURPLUS OF 1836.

WAVERLY, IOWA.

Give a history of the surplus money that was in the United States Treasury in 1836, which was ordered divided among the States. Why was it not so divided?  
L. FOSTER.

*Answer.*—In his report of December, 1829, the Secretary of the Treasury (Ingham) estimated that the public revenue for the ensuing five years would leave a balance over probable expenses of some \$60,000,000. Of this \$48,522,869 would be taken up by the debt becoming due and payable. The Secretary suggested a gradual lowering of the tariff in order to prevent the amassing of money in the Treasury which was not required by the government expenses. President Jackson, in his message to Congress at the same date, referred to the condition of the Treasury. It was his opinion, at this time, that no readjustment of the tariff of which the people would approve, would do away with a considerable surplus, and he advocated the apportionment of this surplus among the several States on the basis of representation as "the most safe, just, and federal disposition that could be made of the surplus revenue." The whole public debt was virtually extinguished by Jan. 1, 1835, and at that date the balance of available funds in the Treasury was \$5,586,232. The revenue of the Treasury during 1835 was much larger than was expected owing, mainly, to greatly increased sales of public lands, and the balance Jan. 1, 1836, was \$26,749,803. In view of this large balance and its probable great increase during the coming year Congress passed an act June 23, 1836, authorizing the distribution of this money among the States. By this time, however, President Jackson had changed his opinion concerning the "most safe and just disposition of the public money." This change of front had no doubt grown out of the President's war on the United States Bank, which had led to the removal, in September, 1833, of United States deposits from that bank to certain State banks selected by the administration. The distribution of the surplus among the States would have deprived these favorite banks of the deposits. The President was, therefore, now doubtful whether the distribution of the money was constitutional. The question of the constitutionality of the act of 1836 had been much disputed in Congress. In 1835 a committee had been appointed to investigate executive patronage and public expenditures. This committee reported a resolution advocating a constitutional amendment providing that at the end of each year all the balance in the Treasury, except \$2,000,000 reserved for current and contingent expenses, should be distributed among the States. This resolution never came to a vote, but the following year a bill for the distribution of the surplus was brought into the Senate and supported both by Mr. Clay and Mr. Webster. Mr. Benton opposed it, and in-

troduced an antagonistic bill providing for the application of the surplus revenue to the public defenses. The distribution bill passed the Senate, however, by a vote of 25 to 20. But, when sent to the House for concurrence, it met with decided opposition, so persistent was the opinion in that body that the plan was unconstitutional. The Senate, therefore, decided to change the form of the plan, and therefore passed another bill proposing, instead of a distribution, a deposit with the States, the faith of the States being pledged for the return of the money. In this form the bill passed the Senate with only six dissenting votes, and was concurred in by the House by a vote of 155 to 38. The President signed the bill most unwillingly, as Mr. Benton said, "with a repugnance of feeling and a recoil of judgment which it required great effort of friends to overcome." The fact was, he felt sure that if he refused, it would have been passed over his veto. The act provided for the deposit of all the money remaining in the Treasury Jan. 1, 1837—with the reservation of \$5,000,000—on the basis of the representation of the several States with the different State Treasurers, or other competent authorities, for which certificates should be given pledging the faith of the State for the safe keeping of the money, and its repayment when called for by the Secretary of the United States Treasury—previous notice being, of course, allowed. The money was to be paid in four equal installments on the first days of January, April, July, and October. Jan. 1, 1837, the surplus in the Treasury, after reserving the amount required by law, was \$37,463,859.97. This was apportioned on the basis of the representation of the States, that is, there being 284 electoral votes, the sum of \$127,445.10% was to be allowed for each electoral vote, to be paid in four installments of \$31,861.29% each. All the States then in the Union passed laws authorizing the receipt of the deposits, and some State Legislatures instructed their representatives to endeavor to secure certain changes in the law. The wording of these resolutions shows plainly that the money was then regarded as a deposit to be recalled and not as a gift. There is a mistaken impression current among many persons that none of this money was ever passed over to the States. Three-fourths of the amount apportioned was paid, in equal installments, in the months of January, April, and July, by transfers from the deposit banks that had been selected by President Jackson. Full details of these transactions may be found by consulting the United States Treasury documents for the year 1837. The total sum thus paid over was \$28,101,645, and receipts were in every instance given to the United States Treasury for money received. When the time for paying the fourth installment of this money approached, two very serious difficulties interposed. In the first place, the law of June 23, 1836, provided that no bank could be selected or continued as a place of deposit of public money which was not able to redeem its notes and bills on demand in specie. The year 1837, the reader must remember, witnessed a very serious financial crisis, brought on solely by a too extensive indulgence by the people in cash



speculation. The banks were the first to feel the crisis, and one after another suspended specie payment during the summer, so that of the eighty-eight banks used for government deposit in the spring, only six were still paying out specie in September. Indeed, a large part of the July payment was made in paper, simply because the banks could not meet the government orders in specie. To meet these and other complications arising from the financial crisis, President Van Buren called an extra session of Congress, which met Sept. 4. The report of the Secretary of the Treasury sent in to this body, showed that the depressed general state of business had so affected the government's receipts, that there was no longer any surplus in the Treasury, and that the deposit of the fourth installment with the States must be postponed, or if paid must be immediately recalled. The matter was discussed at some length in Congress, a number of members advocating the payment of the installment, and making up the deficiency by an issue of bonds by the Treasury. Finally, however, a bill was passed, postponing the payment to Jan. 1, 1839. When that date arrived, however, there were no surplus funds in the Treasury. The balance, as stated in the Treasury report of December, 1838, was but \$2,765,342, and at the same time the Treasury notes outstanding amounted to \$1,764,560. These facts were laid before Congress, but that body took no action in the matter, and, as years went on and there never appeared any surplus in the Treasury above its estimated expenditures and notes and bonds due, the true state of the case was almost forgotten. The amount of the money deposited with the States has always been held among the "unavailable funds of the Treasury," and is annually so reported. Congress can at any time authorize its recall, though that body is not likely to do this at present. On the other hand, the States have naturally come to regard the money they have received as their irrevocable possession, and there have been suggestions recently of bringing claim, through the various State Legislatures, for the payment of the postponed installment. But John Jay Knox, in his very exhaustive article on the subject in the "Cyclopedia of Political Science," says that this money already paid to the States is, according to the Constitution, still in the Treasury of the United States. The only method of taking money out of the Treasury is by an appropriation by Congress, upon which the Secretary of the Treasury is authorized to issue his warrant, and no such method was ever adopted in relation to this money. The hap-hazard use of the money by the States contributed to the general impression that it was so much "loot" and would never be recalled. In this connection we quote from Benton's "Thirty Years' View" as follows: "All sorts of plans were proposed for the employment of the money; and combinations, more or less interested or designing, generally carried the point in the universal scramble. In some States a pro rata division of the money per capita was made; and the distributive share of each individual, being but a few shillings, was received with contempt by some

and rejected with scorn by others. In other States it was divided among the counties, and gave rise to disjointed undertakings of no general benefit. Others, again, were stimulated by the unexpected acquisition of a large sum, to engage in large and premature works of internal improvement, embarrassing the State with debt and commencing works which could not be finished.

#### THE LEWIS AND CLARKE EXPEDITION.

DAYTON, W. T.  
Give brief account of the Lewis and Clarke expedition. G. S. H.

*Answer.*—In 1803 Lieutenant William Clarke and Captain Meriwether Lewis, officers of the United States army, were ordered by President Jefferson to conduct an exploring expedition across the Rocky Mountains to the mouth of the Columbia. They left St. Louis in the summer of this year with a company composed of nine young men from Kentucky, fourteen soldiers, two Canadian boatmen, an interpreter, a hunter, and a negro servant of Captain Clarke. They encamped for the winter on the bank of the Mississippi, and in the spring of 1804 began the ascent of the Missouri River, which they found very difficult. They found the most of the Indian tribes friendly. The party passed the second winter among the Mandan Indians, lat. 47 deg. 21 min. N. April 7, 1805, they again moved forward, still going up the Missouri, and by the middle of June reached the great falls. They journeyed around these, and near the end of July they reached the confluence of three large nearly equal streams; to these they gave the names of Jefferson, Madison and Gallatin—after the President, Secretary of State, and Secretary of the Treasury at that time. The one of these streams lying farthest north was the Jefferson, and this they followed to its source. They then procured a guide and horses from the Shoshone Indians, and traveled through the mountains until Sept. 22, when they reached the plains of the western slope. Oct. 7 they embarked in canoes on the Kootenokosky, a left branch of the Columbia, and Nov. 15 reached the mouth of that river, having traveled more than 4,000 miles from the confluence of the Mississippi. Their third winter was passed in an intrenched camp on the south bank of the Columbia. They returned home by recrossing the mountains. March 28, 1806, they began the homeward journey. They ascended the Columbia as far as it was navigable, then (May 2) left their boats and journeyed on horseback over the mountains to the Missouri River. On the latter stream they re-embarked Aug. 12, and reached St. Louis Sept. 23, after an absence of two years and four months.

#### HORSE-POWER OF BOILERS.

DUBUQUE, IOWA.  
Explain how the horse-power of boilers is rated. READER.

*Answer.*—Admitting a good natural draught for the furnace, for the evaporation of one cubic foot of water per hour, the boiler should have ten feet square of heating surface. This evaporation per hour may be taken to represent one horse-power. The coal required to effect this degree of evaporation will generally be about eight pounds, and the grate surface needed for the combustion of this amount of coal per hour is about half a

square foot. Estimates of horse-power in boilers, therefore, take into account ten square feet of heating surface, half a square foot of grate surface, eight pounds of good coal, and one cubic foot of water per hour for each unit of horse-power that the boiler is expected to develop.

#### BUILDING ASSOCIATIONS.

CHICAGO.  
How many building associations are there in the United States, and where are they most numerous, in the East or West? Can you give any facts concerning their investments? INQUIRER.

Answer.—It would be impossible to state definitely the number of building associations in the country, as few statistics on the subject have been gathered. But at the recent meeting of the Social Science Association Mr. F. B. Sanborn read a report from the special committee on provident institutions which contains some figures on the subject. By this report Massachusetts is credited with 64 building associations, Maine is said to have 10 or 12, New Hampshire 4, Rhode Island 3, and Connecticut 7. Vermont has no law for such associations, and, accordingly, none are organized. In all New England, we are informed, there are not far from 90 building associations, or co-operative banks, as they are sometimes called, but, it is added significantly, they are fast increasing in number. In the Middle States the number is larger. Philadelphia stands pre-eminent in this regard. During twenty-seven years referred to in the report almost 700 building associations were organized. At present 450 are estimated to be in progress in Philadelphia, and 450 in the rest of the State of Pennsylvania. In New Jersey there are 140 associations, in Delaware 30, and in Maryland 50. It is estimated in the State of New York there are 290, making something over 1,200 such organizations in the five Middle States. A competent authority, says the report before us, estimates that there are 50 building associations in Texas, and asserts that they are numerous in Missouri as well. A few are found in Arkansas, Mississippi, Kentucky, Tennessee, Louisiana, Alabama, Georgia, the Carolinas, and the Virginias. The whole number of building associations in the former slaveholding States, exclusive of Delaware and Maryland, is estimated at 200, and they, also, are fast increasing. It is supposed that Ohio stands next to Pennsylvania in the number of its building associations, and that the number exceeds 600, although there is no definite record in this regard, Illinois comes next to Pennsylvania and Ohio in the number of organizations; there are 400 in the whole State, with nearly 300 in Chicago alone. Iowa is estimated to have 100 and Michigan 50. Minnesota is estimated at 125; Wisconsin is estimated to have 50 building associations. California had 11 in 1887. From all the statistics at hand the committee above referred to estimates that there are now perhaps 3,000, or possibly 3,500, co-operative building and loan associations in the United States. They provide for the investment at any given time of not less than \$300,000,000. The accumulated investments made by the aid of building associations are estimated at from \$500,000,000 to \$750,000,000 in a period of forty years. At the rate that building

associations are now gaining, the time may come when their accumulated savings at any one time will exceed those of the savings banks, immense as the latter are. It is doubtful if any system for savings has ever been devised which has had such a tendency to produce frugality among persons of small income as the building associations. There is nothing to repel and everything to attract such persons who are paying rent or boarding, and who wish to avoid doing so. The necessity, therefore, of careful foundations for such organizations, and the best accounting, is manifest.

#### HABEAS CORPUS.

RIDGEWAY, Iowa.  
Please explain the writ of habeas corpus referred to in the United States Constitution. A. F. S.

Answer.—Some writers date the use of the habeas corpus writ from the signing of the Magna Charta, by King John of England, in 1215. One article of that famous charter declares that "no man shall be taken or imprisoned but by the lawful judgment of his peers, or by the law of the land." Others, however, call attention to the fact that the principle of personal liberty was affirmed, not originated, by the Magna Charta, and that the writ of habeas corpus, designed for individual protection, had been in use for many years previous. It was addressed to a sheriff or other officer, and commanded him to have the body of a certain person named at a certain place and time. One of the most important purposes for which it was used was to release persons subjected to imprisonment wrongfully. As all writs were in Latin, the characterizing words of the writ, "ut habeas corpus," gave the name to it, a name which long survived the use of this phraseology in the document, though the purport of its language is still very much the same as in the early times. Owing to the arbitrary disposition of subsequent English Kings, the Magna Charta provision was frequently violated, the courts and sheriffs being disposed to support royal usurpations for their own advantage, and the law became so powerless that, early in the reign of Charles I. the court of Kings' bench, whence the writ was issuable, formally decided that it had no power to release any person who had been imprisoned by the express command of the King, or by the Lords of the privy council. The petition of right, passed by parliament in 1628, declared this decision of the King's bench illegal, and other provisions were enacted, intended to make the writ effectual. Its evasion by judges and crown officers, however, continued until the passage of the "habeas corpus act"—the law now always understood by that name—in 1679, during the reign of Charles II. This act provides (1) that any man taken to prison can insist that the person who charges him with crime shall bring him bodily before a judge and state the why and wherefore of his detention, and as soon as this is done, the judge is to decide whether or not the accused is to be admitted to bail; (2) that every person accused of crime shall have the question of his guilt decided by a jury of twelve men, and not by a government agent; (3) that no prisoner can be tried a second time on the same charge; (4) that every prisoner may insist on being examined within twenty days of his arrest, and tried by



jury the next session; (5) that no defendant may be sent out of the country for imprisonment. These provisions, in themselves, and in their mutual support of each other, are so skillfully devised as to make evasion of them almost impossible. Ever since their adoption, therefore, they have been regarded by all English-speaking nations as the most important safeguard of personal liberty. The English statute has been copied in the United States without essential changes, the variations from it being only such as would, in the opinion of the various Legislatures, make its provisions more stringent, and the security which it gives to liberty more certain and available. By constitutional restriction this law can only be suspended when, in time of war or domestic turbulence, the public safety may seem to require it.

#### THE TRIAL OF THE PYX.

I am asked about the "trial of the pyx," and am unable to explain what it is, and therefore come to Our Curiosity Shop for information. CHICAGO. TEACHER.

*Answer.*—The trial of the pyx is the annual testing of the standard of the gold and silver coins in the English mint. It is a custom of very ancient origin, and derives its name from the pyx, or chest, in which the coins to be examined are kept. The word pyx, be it noted, is derived from a Greek word meaning a box, and is applied in the Roman Catholic Church to the box in which the sacred host is kept, and mariners also apply it to the receptacle wherein the compass is suspended. In early times the mint master in England was simply a person under contract with the government for the manufacture of the coinage, and periodical examinations were consequently necessary to see that the terms of the contract were complied with. The mint master is now an officer of the crown, but the manner of conducting the ceremony is substantially unchanged. The finished coins are delivered to the mint master in weights called journey-weights—that is, 15 pounds troy weight of gold, containing 701 sovereigns, or 1,402 half-sovereigns; of silver, 60 pounds troy. From each journey-weight a coin is taken and placed in the pyx for the annual trial. The examination of the coins is made by the Goldsmiths' Company, under the direction of the crown, in the presence of the "Queen's remembrancer," who administers the oath to the jury and presides over the proceedings. The coins are compared with pieces cut from trial-plates of standard fineness, which are in keeping of the "warden of the standards." If the coins are found to be of standard fineness and weight, within certain limits, a statement to that effect is testified to by the jurors, and handed over to the treasurer. The coins to be tested are kept in the ancient chapel of the pyx at Westminster Abbey, in joint custody of the lords of the Treasury and the comptroller-general. This custom was first ordered during the thirty-second year of the reign of King Henry II. (1154-1189), and took place occasionally in subsequent reigns, whenever royalty chose to order it. King James was present at one of the ceremonies in 1611. There was one held at the exchequer office July 17, 1861, and the next Feb. 15, 1870. During the year 1870 a coinage act was passed by Parliament providing for an annual trial of the pyx, and the ceremony

has been observed each year since then. A similar ceremony is provided by the law in the United States. This trial is made at the Philadelphia mint, yearly, on the second Wednesday in February, before the Judge of the United States District Court, the Comptroller of the Currency, the assayer of the New York assay office, and such other persons as the President of the United States may designate. A majority of the persons appointed constitutes a competent board, and the examination is made in the presence of the Director of the Mint. For each delivery of coins made by the chief coiner a certain number are reserved for trial, deposited in the pyx, and kept under the joint care of the superintendent of the mint and the assayer, each of these officers securing it by an independent lock. Reserved coins from the coinage of other mints are transmitted quarterly to the Philadelphia mint, or the director may, if he wishes, take other pieces for the test. The examiners are not sworn as in England, but they make a certified report of the trial after examination. If this shows the coins to be within the limit of tolerance in fineness and weight it is simply filed, but if not the fact is certified to the President of the United States, and if he should deem it proper to do so he may order all the officers implicated in the error thenceforward disqualified for holding their offices.

GEORGE KENNAN.

CODDEN, Ill.  
Give a biographical sketch of George Kennan, the traveler. J. A. S.

*Answer.*—George Kennan, the noted traveler, was born at Norwalk, Ohio, Feb. 16, 1845. His opportunities for education were restricted by the fact that the circumstances of his family made it necessary for him to contribute to the support of others, and at the age of 12 he began work in a telegraph office. Being determined, however, to fit himself for college, he continued to carry on his studies, in spite of the arduous work in which he was daily engaged. He became a very expert operator, and was successively employed at Wheeling, Columbus, and Cincinnati. His work, during the years 1862 and 1863, in the important position he then held, was so absorbing that he finally gave up his hope of a collegiate course. In 1864, hearing of the proposed Russo-American telegraph, he was eager to join in the enterprise, and through the friendship of General Anson Stager, of the Western Union Telegraph Company, he was appointed for the work. The reader will find an account of the "Russo-American Telegraph Expedition" in Our Curiosity Shop book for 1887. When this expedition was brought to an untimely end by the successful laying of the Atlantic cable, Mr. Kennan went by land to St. Petersburg, remaining there a year. In the spring of 1868 he returned home. He delivered lectures for two seasons, and wrote a book on his travels, "Tent Life in Siberia," which was published in 1870. With the money obtained from these ventures he made a trip to the Caucasus Mountains. Most of the winter of 1870-71 was spent in solitary horseback journey through Daghestan. After his return he was engaged in various occupations. He was con-

nected for a time with an insurance company in New York City, and for seven years reported the work of the Supreme Court at Washington for the Associated Press. He also did editorial work and much lecturing. May 2, 1885, he was sent by the *Century*, of New York, to Siberia to make an especial study of the exile system in that country. He returned in August, 1886, and his account of his journey is now in course of publication.

#### HOW MACARONI IS MADE.

XENIA, Ohio.  
Describe the process by which macaroni is made.  
R. L. J.

*Answer.*—Macaroni is an Italian invention, and though the process of its manufacture is very simple, it has never been produced so successfully in any other country. This is said to be because Italian macaroni is made from a peculiar kind of wheat named grano duro, or hard grain. At first it was imported at considerable expense from the Russian territories on the Black Sea. This grain which is now extensively grown by the farmers of Southern Italy is said to possess a much greater amount of gluten than other varieties of wheat, and to be therefore better adapted for the macaroni manufacture. Its kernel is very small. After the wheat has been washed it is hulled and ground and passed through several sieves to separate the finer from the coarser flour. Five qualities are obtained by as many siftings, the last the finest that can be made. The flour is mixed with hot water to the consistency of a stiff dough, and is then kneaded by means of a wooden pole fastened to a post and worked up and down upon the paste; or the cheaper grades are often made by treading the dough with the feet. When the paste has been kneaded for a long time it is put into a trough or iron vessel containing a large number of small holes of two sizes, the paste passing through the smallest becoming vermicelli. Over the larger holes are little copper bridges, from which copper wire passes through each hole and this makes the hollow tubes of the macaroni. When this vessel is filled with the dough a press is driven in upon it, and as fast as it is forced through the holes a workman takes up the macaroni or vermicelli, as the case may be, and lays it across a line to dry in lengths of two or three yards, after which it is ready for market. A current of hot air passing through the tubes and strings as they are being formed partially cooks them and they are dried by hot air currents, so that in preparation for the table no long cooking process is necessary for this food.

#### THE UNIVERSITY OF GOTTINGEN.

FAIRBANK, Iowa.  
Tell something about the University of Gottingen, its location, founders, object, history, etc.

DICK.

*Answer.*—The University of Gottingen, located in a town of the same name in the province of Hanover, Prussia, was founded in 1734 by George II. King of England and Elector of Hanover, and was opened Sept. 17, 1737. Through the learning and fame of its professors it became, before the close of the century, the most famous university in Europe. Its fortunes were not materially changed till after the foundation of the University of Berlin in 1810, which proved a formid-

able rival. In 1825 its students numbered 3,000, but the political disturbances of 1831 caused a great reduction in the attendance, which in 1834 had fallen to 860. Yet the university could still boast of a brilliant array of famous professors, among whom were Blumenbach, Ewald, Mitschulich, Muller, Gervinus, Heeren, and the brothers Grimm. A new university building was dedicated on the 100th anniversary of the first opening of the institution in 1837, but before the close of the year seven of the ablest professors had been expelled by the government because they had protested against the abrogation of the Hanoverian constitution by King Ernest. Two of these were allowed to resume their duties in 1848, but the university has scarcely, to the present day, recovered from the blow to its prosperity then received. In 1883 the university had 119 teachers, including 59 professors, and 1,104 students. The university library comprises 560,000 volumes and 5,000 manuscripts. It is one of the best arranged libraries of Europe, and its full collection of modern works has no equal in German libraries. The academy of sciences includes sections for mathematics, natural sciences, and history, and under its auspices is published the *Gelehrte Anzeigen*, the oldest scientific journal of Germany. The museum of natural history contains a collection bequeathed to it by Blumenbach, including human skulls of natives of all quarters of the globe; a large collection of coins, and some works of art. There are connected with the university "seminaries for theology, philology, mathematics, and natural sciences; hospitals, clinics, and an anatomical theater; a botanical and economical garden, a school for veterinary surgeons, a chemical laboratory, a fine physiological institution, an observatory, and an agricultural school."

#### MOUNT ETNA AND ITS ERUPTIONS.

OAKLAND, Ill.  
Give some account of Mount Etna, and tell something of its eruptions.  
QUERRET.

*Answer.*—Mount Etna is a volcano of Sicily, and has been active from the earliest times. The ancients had a fable that beneath the mountain was buried a mighty giant, Enceladus, whom Jove had hurled from heaven for rebellion, and pinned to earth by tossing a mountain upon him. The flames were the breath of the imprisoned monster, the loud noises his groans, and earthquakes were caused by his efforts to turn over his enormous body. The first recorded eruption of Etna occurred before the supposed date of the Trojan war, but its exact time is not known. Thucydides, the historian, next records three eruptions, one in the year 475 B. C., one in 425, and the third at an earlier date not specified. Since those there have been, down to the present time, seventy-eight outbreaks, many of them, however, comparatively harmless. Among the most remarkable of the great eruptions were the following: That of 1169 A. D., when Catania and 15,000 of its inhabitants were destroyed; that of 1527, in which two villages and many human beings perished; and two eruptions of 1669, in which no less than fifteen villages were destroyed. Many fissures in the earth were made at this time—one said to have been twelve miles long, which emitted a most



vivid light. Afterward five other fissures opened, from which came smoke and loud noises. The city of Catania, at the foot of the mountain, had built a wall sixty feet high on that side to protect it, but the lava rose until it overflowed the wall and poured a current of liquid fire into the houses. This current flowed onward until it reached the sea, fifteen miles distant. It was 600 yards wide and forty feet deep. Entering the sea, the water was thrown into violent commotion, the noise of its agitation was as loud as thunder, and clouds of steam darkened the air for many hours. The eruption of 1755 was remarkable for an inundation caused by the flow of the hot lava over the snow that covered the mountain. It was imagined, at the time, that the water was thrown out of the crater. A great eruption took place in 1852, immense clouds of ashes being ejected. From two new openings on the east vast torrents of lava poured out, one of which was two miles broad, and in part of its course 170 feet deep. The outbreak in 1864-65, was a slight one. That of May, 1879, was much more violent, the clouds of smoke and showers of ashes being followed by the ejection of a stream of lava 200 feet wide, which desolated large tracts of cultivated land. There were also eruptions in 1883 and 1886, but both subsided before any great damage had been caused. Mount Etna is now 10,868 feet high; according to ancient writers it was once much higher. The old accounts are doubtless exaggerated, but it is known that frequent eruptions have broken off large parts of the upper portion of the mountain. Its surface is divided into three distinct regions. The lowest is that of fertile land, producing fruit and grains, which extends 2,000 feet from the base up the mountain side, with a circumference of ninety-two miles. Above this is a strip nearly 4,300 feet wide covered with large forests, above which to the mountain top there is only a dreary waste of ashes and hardened lava. In spite of its tragic history, the sides of the mountain have a population of over 300,000 people in sixty-three small villages and two large cities.

#### A POPULAR NOVELIST.

Give a brief sketch of the life and works of E. Marlitt, the German writer.

CHICAGO.  
STUDENT.

*Answer.*—E. Marlitt is the pseudonym adopted by Miss Eugenia John. She was born at Arnstadt, in Thuringia, Dec. 5, 1825. She manifested remarkable musical talent as a child, and was adopted by the Princess of Schwarzburg-Sonderhausen, who gave her a fine education and sent her to Vienna to perfect her musical studies. She went upon the stage and was quite successful, but unfortunately her theatrical career was cut short by an ear complaint, which quite destroyed her hearing. The Princess still stood as her friend, and took her into her employ as a reader. At the castle of the Princess and traveling with her from place to place, Miss John was enabled to study the world and secure the wide experience of men and women which she later turned to account in writing her romances. In 1863 she settled in Arnstadt and began literary work. Her books were very successful.

The following list includes nearly all her works, but we are not sure of the order of publication: "The Old Mam'selle's Secret," "Gold Elsie," "The Twelve Apostles," "The Little Moorland Princess," "The Second Wife," "Countess Gisela," "In the Schilling Court," "The Bailiff's Maid," "At the Councillor's," "The Step-mother." Most of these have been translated into English with much skill and accuracy by Mrs. A. L. Wister, of Philadelphia. Miss John died June 22, 1887.

#### ELECTORAL VOTE IN 1860.

What parties placed National tickets in the field in 1860, with the names of candidates for President and Vice President; also the number of electoral votes each received?

LEWISTON, ILL.  
W. T. SCOTT.

*Answer.*—The following shows the candidates, total electoral vote of the States, the popular vote, and the electoral vote of the candidates:

Candidates.	Total popular vote.	Total electoral vote.
Lincoln .....	1,866,352	180
Breckinridge.....	845,763	72
Bell.....	589,581	39
Douglas.....	1,375,157	12
Total.....	4,676,853	303

The candidates for Vice President were Hannibal Hamlin, Joseph Lane, Edward Everett, and H. V. Johnson, respectively.

#### CABINETS OF LINCOLN AND JOHNSON.

CHICAGO.  
Give a list of the members of the Cabinets of Lincoln and Johnson and when appointed; also tell how many are still living, and where, and what offices they held after leaving the Cabinet.

INQUIRER.

*Answer.*—Lincoln's first Cabinet was as follows: Secretary of State, William H. Seward, of New York; Secretary of the Treasury, Salmon P. Chase, of Ohio; Secretary of War, Simon Cameron, of Pennsylvania; Secretary of the Navy, Gideon Welles, of Connecticut; Secretary of the Interior, Caleb B. Smith, of Indiana; Postmaster General, Montgomery Blair, of Maryland; Attorney General, Edward Bates, of Missouri. All these officers were appointed March 5, 1861, and their appointments were duly confirmed by the Senate. Seward served until the close of Johnson's term in 1869, and so did Welles. Chase was made Chief Justice of the United States Supreme Court July 1, 1864. And William Pitt Fessenden, of Maine, was appointed to succeed him, serving until March, 1865, when his place was taken by Hugh McCulloch, of Indiana, who was reappointed on the accession of President Johnson, and served through the latter's term. Cameron's appointment was not altogether approved of by the party, and so he gave way to Edwin M. Stanton, of Ohio. Johnson's difficulties with the last-named officer are well known, and he removed him, appointing General Grant in his place Aug. 12, 1867. The Senate, on its meeting, refusing to confirm the appointment, Grant withdrew, Jan. 12, 1863. Feb. 21 the President appointed General Lorenzo Thomas, but the Senate not only refused to confirm this second choice, but passed a resolution declaring that the President had no power to remove a Secretary of War. Mr. Stanton thereupon refused to vacate his office, and upon his application to court General Thomas was arrested, but immediately released. The

Senate then proceeded to impeach the President, but the impeachment was not sustained by two-thirds of that body, and Mr. Stanton, immediately upon the President's acquittal, resigned his office, and General John M. Schofield was appointed to fill his place. Mr. Lincoln's first Secretary of the Interior, Mr. Smith, resigned in December, 1862, and was succeeded by John P. Usher, of Indiana, who held the office until May, 1865, when he gave way to James Harlan, of Iowa. The latter being elected Senator the following year, he resigned and his place was filled, July 27, 1866, by Orville H. Browning, of Illinois. Montgomery Blair resigned the Postoffice Department, at the President's request, Sept. 23, 1864, and ex-Governor Dennison, of Ohio, was appointed to the vacancy. He served until July 25, 1866, when he resigned and Alexander W. Randall, of Wisconsin, was made his successor. Edward Bates, Lincoln's first Attorney General, resigned, June 22, 1863; Titian J. Coffey, of Pennsylvania, was appointed, ad interim, and served until Dec. 2, 1864, when James Speed, of Kentucky, was regularly chosen to the office. The latter gentleman resigned July 23, 1866, was succeeded by Henry Stanbery, of Ohio, who served until July 15, 1868, and was then succeeded by William M. Everts, of New York. But five of the twenty-one cabinet members above noted are now living, and but few had any prominence after their retirement from the ministry. We very briefly refer to those now dead in the order of time in which they passed away. Caleb B. Smith, of the Interior, when his incompetency made his removal from the Cabinet a political necessity, was provided for by an appointment as judge of the United States District Court for Indiana in December, 1862, and held that position till his death at Indianapolis, Jan. 7, 1864. Attorney General Bates was a dignified, but by no means influential, Cabinet member, and on resigning his post in 1864 he retired into the obscurity of domestic life, at St. Louis, where he died March 25, 1869. William P. Fessenden resigned his Secretaryship to return to the Senate. Here his course in voting for the acquittal of President Johnson, on the impeachment trial, brought upon him much odium. He never again regained his influence in the Senate, and died Sept. 8, 1869, at his home in Portland, Me. Edwin M. Stanton was made an Associate Justice of the Supreme Court by Grant, but died three days after his appointment at Washington, Dec. 24, 1869. A. W. Randall left the Cabinet to take up his residence at Elmira, N. Y., where he practiced law until his death, July 25, 1872. W. H. Seward retired to his home in Auburn, N. Y., in March, 1869, the following year set out on a tour around the world, from which he returned in October, 1871. The last year of his life was spent in literary work, during which he compiled an account of his travels and partly finished a history of his life and times. He died at Auburn, Oct. 10, 1872. Salmon P. Chase was made Chief Justice of the Supreme Court, as we have said, and died during a visit to his daughter in New York, May 7, 1873. General Lorenzo Thomas died at Washington, March 2, 1875, having been retired from the

army with the rank of Adjutant General in February, 1869. Gideon Welles, after retiring from his long service in the navy, kept himself before the public by writing a number of articles on the people and events of the two administrations with which he had served. These, published in the magazines, aroused much interest and discussion. He died in Hartford, Conn., Feb. 11, 1878. O. H. Browning was practicing law with the Hon. Jeremiah Black at Washington, when Mr. Johnson appointed him to the Interior Department. At the expiration of his term of service there he resumed his profession in Quincy, Ill., where he was in active practice until his death, Aug. 10, 1881. Ex-Governor Dennison left the Cabinet because his radical sentiments could not be brought into accord with the "policy" of President Johnson. Returning to Columbus, he ostensibly resumed law practice, but had been too long in political life to adjust himself readily to the labors of his old profession. He was an unsuccessful candidate for United States Senator in 1880. He died at his home July 15, 1882. Montgomery Blair was a man of wealth, and lived most of the late years of his life on his fine country place at Silver Spring, Md. He rejoined the Democratic party upon leaving the Cabinet, and was very active in its support. He supported Mr. Tilden in 1876, and subsequently spoke with much vigor against President Hayes' title. He favored a second candidacy of Mr. Tilden in 1880, but when this was shown to be impossible he gave warm adherence to General Hancock. He died at his home July 27, 1883. General Grant can hardly be said to have served as a Cabinet officer, so brief and tentative was his term, and of his brilliant subsequent political record it is not necessary to speak. James Speed was made Attorney General by Lincoln for considerations of friendship, and was never really equal to the office. Like Dennison, he retired, because of his disapproval of President Johnson's course. He resumed legal practice in Louisville, but retained considerable interest in politics. He was a Republican delegate to the National convention of 1863, and again to that of 1876. In 1884 he supported Mr. Cleveland. He also held a professorship in the law department of the University of Louisville in 1875-79. He died at Louisville, June 25, 1887. Of the five living members among these old Cabinet officers, General John M. Schofield, now ranking senior General of the army, may be regarded as the one of most present prominence. Hugh McCulloch became a banker in London in 1870, and resided there several years. In 1884 he was again called to the Treasury by President Arthur. He resides in Washington, and has recently published a book of recollections that is likely to keep him before the public some time longer. Simon Cameron is getting to be an old man now, having been born in 1799. After leaving his position in the War Department he served as Minister to Russia for nearly two years. He was a delegate at the Baltimore convention of 1864. In January, 1867, he was elected to the Senate, and was re-elected in 1873. In 1877 he resigned in favor of his son. He worked for the Republican party during the campaign of 1880. Since then he has



taken no active part in politics. He makes his home in Harrisburg, Pa. John P. Usher was an Indiana lawyer, and went back to his profession from the Cabinet. He came before the public some years later as one of the consulting attorneys of the Union Pacific Railroad. James Harlan resigned his Cabinet office to enter the Senate, where he was until 1873. He was also President of Iowa University from 1869 to 1873. After leaving the Senate he became proprietor and editor of the *Washington Chronicle*. He was also at the head of the Alabama Claims Court until it was wound up a few years ago. His home is still in Washington. T. J. Coffey was and still is a Pennsylvania lawyer, and, we think, resides in Philadelphia.

#### THE ST. JOHN CHARGES.

MAITLAND, WIS.  
Please give an account of the charges brought by Clarkson against John P. St. John, and tell whether they were ever proved. SUBSCRIBER.

*Answer.*—After the election of 1884, Mr. St. John was very generally charged with insincerity and mercenary motives. A St. Louis paper having asserted that Mr. J. S. Clarkson, editor of the *Des Moines (Iowa) Register*, could testify that the Prohibitionist leader was always "on the make," a Chicago journal wrote to Mr. Clarkson for his evidence. This was given to the public Jan. 9, 1885. Briefly, it was to the effect that in the October previous, just before the Ohio State election, St. John, through his friend, James F. Legate, made an offer to sell out to the Republicans for \$25,000. For this sum he would either withdraw from the field or remain in it, and speak indirectly in favor of the Republicans. Legate came to Cincinnati, where he met Clarkson, to whom he had a letter from Senator Plumb; and claimed to have authority to speak for St. John, corroborating his statements with confidential letters and dispatches. Protracted negotiations with Legate followed, the latter always representing himself as in direct and frequent communication with his chief. The demand first made was for \$25,000, but was gradually forced down to one-tenth of that sum. As a proof of his sincerity St. John was requested, through Legate, to leave Ohio in the midst of the canvass. This Clarkson said he did, on the plea of weakness of the throat. But Mr. St. John, who denied the charges in toto, said that he did not desert his post in Ohio, but fulfilled every engagement before he withdrew to speak in Michigan. The story of Clarkson, so far as Legate was concerned, was certainly supported by proof, but the question whether St. John knew and consented to the negotiations carried on in his name was left uncertain. The witnesses cited by Clarkson were Senator Plumb, Stephen B. Elkins, Colonel Dudley, R. C. Kerens, and one Willard, Legate's nephew and secretary. Willard made affidavit that St. John, in answer to a telegram sent to him, told them to "proceed with the negotiations." Both Kerens and Clarkson made public letters that unquestionably convicted Legate of sharing in, if he did not actually devise, the bargain scheme. Mr. Elkins was the Republican to whom the proposition was submitted. But though the negotiations of Clark-

son and Legate were proved, there was no direct evidence of other than a circumstantial character to convict Mr. St. John of knowledge of the bargain. The matter was never pushed to further investigation.

#### THE EQUALIZATION BOUNTY BILL.

BURROAK, IND.  
Did General Grant veto a bill to equalize the bounties paid to soldiers? If so, give some account of the bill, and the President's reasons for opposing it. D. C. KNOTT.

*Answer.*—Accurate information on the above point is not readily obtained, owing to the peculiar, not to say irregular, manner in which the bill was passed. McPherson's Political Handbook makes no mention of it, nor does the Annual Cyclopaedia for the year, and in various summaries of President Grant's vetoes this is not mentioned. The following are the circumstances of the matter, obtained directly from the *Congressional Record* of the dates mentioned. Between 1865 and 1875 no less than four bills for the equalization of bounties had been brought before Congress, and had been passed in the House. One was brought by General Schenck in the Thirty-ninth Congress, one by Henry D. Washburn in the Fortieth Congress, and one by Mr. Krebs in the Forty-second Congress. All of these, though adopted by the House, had been voted down in the Senate, and all on the same plea, that owing to the very great difference in local bounties no equalization was possible. Reference was made to the facts in the case. In the early part of the war, when volunteering went on rapidly, no bounties were offered. Later, when the serious nature of the struggle was more apparent, and the need of men was imperative, the Federal Government offered bounty at the rate of \$100 a year. State governments then also offered bounties, in eagerness to have quotas filled as rapidly as possible, and still later, when the draft was ordered, States, counties, and towns offered very large bounties, in order to avoid the necessity of resorting to conscription. In many instances bounties of \$800 and \$1,000 were given. Obviously, unless it were possible to bring the bounties of all up to the figure of the most generous local bounties, no equalization scheme could claim to be wholly fair. And there were other matters of detail that seemed to many to stand as insuperable barriers in the way of carrying out any of the plans offered. The fourth bill was brought before the House by Mr. Gunckel, of Ohio, in the session of 1874-75, and was referred to the Committee on Military Affairs. The committee reported, but its report met with objections, and was laid upon the table. After considerable effort Mr. Gunckel succeeded Feb. 13, 1875, in inducing the House to take it from the table, and, after considerable debate, it was brought to a vote the same day. The bill provided that all non-commissioned officers, private soldiers, musicians, artificers, wagoners, and servants should receive an additional bounty of \$8.33½ per month for all time served in the army between the dates of April 12, 1861, and May 7, 1865. This was to be paid to widows or families of any man included in above list who had died since his enlistment, but from the amount thus estimated was to be deducted

whatever amount might have been paid as State or local bounty. The objections urged against the bill were that, first, it would make a very heavy draft upon the Treasury at a time when there was no large balance to meet it. Opinions as to the amount of money needed to pay the bounties differed widely. Mr. Gunckel estimated it at \$20,000,000. An employee of the Treasury, who had been requested to make an estimate on it made it \$58,000,000, while to the Auditor of the Treasury, who had been specially asked for his opinion in the matter by Mr. Garfield, said that it would require not less than \$100,000,000. The fact was, apparently, that, no statistics of local bounties being attainable, no estimate could be anything better than a guess. Another objection was that to pay the money called for by the bill, States that had given liberal bounties to their soldiers must be taxed for those which never gave any bounties. The bill, however, passed the House Feb. 13, 1875, by a vote of 177 yeas to 40 nays, 72 members not voting. Among those who voted against the bill for reasons above given were men of such unquestioned patriotic records as Dawes, Eugene Hale, J. R. Hawley, E. R. Hoar, and others. General Garfield and others opposed the bill for its weaknesses in debate, but voted for it on its final passage. The bill then went to the Senate, where Mr. Logan was its especial champion. Here there was much more opposition and more extended debate. Mr. Sherman contended that the United States had never agreed to pay every soldier \$100 a year, as the advocates of the bill claimed. If this were so, and this debt had been paid in a number of cases by the States, it was due from the Federal Government to the States. But the United States Treasury could not stand any such claims, he said, in its present condition. Mr. Ferry offered an amendment, striking out the clause for deducting the bounties paid by States, and Mr. Edmunds further inserted a clause providing for an issue of bonds to raise the money required by the bill. Both of these amendments were adopted, and the bill was finally put to vote March 2, resulting in yeas 30, nays 30, absent 13. Mr. Wilson, the Vice President, voted for the bill and carried it. Many prominent Republicans, as Senators Allison, Boutwell, Chandler, Edmunds, Ferry, Frelinghuysen, Morrill, Sherman, Washburn, and others voted against it. By the most strenuous efforts on its behalf Mr. Gunckel succeeded, at nearly midnight, March 3, in having the rules suspended and the Senate bill taken up. The House refused to concur in the amendments of the Senate, and the bill was sent to a conference committee. This committee reported at 9:30 o'clock on the following morning, recommending that the House recede from its vote of non-concurrence. This the House agreed to by a vote of 150 yeas, 41 nays; not voting, 97. It was held by the friends of the bill that it was now passed, and without waiting for the formal action of the Senate on the conference report, the bill—having been, as is customary with all large bills, enrolled in advance—was submitted to the Speaker of the House for his signature, and then sent to the Senate in regular order. The President of the Senate signed it in

great haste, with a large number of others, which were hurried to President Grant as the last moments of the session were approaching. A few minutes later, however, the Senate laid the conference report on the table, and several Senators objected quite strongly to the haste in sending the bill to the President. The irregular manner of the passage of the bill was probably one reason why President Grant objected to signing it; but the reasons which he gave, briefly, for there was not time to transcribe a veto message, were (1) that the present condition of the Treasury could not stand the large expenditure entailed by the bill; (2) that the bill was not fair to the soldiers, nor to the States; and (3) that, in his opinion, the claim agents would be more benefited by its operation than the soldiers.

#### MUSCOVY DUCKS.

CRESO, IOWA.  
Give a description of Muscovy ducks, and tell where they came from. W. F. GAGER.

*Answer.*—The Muscovy, or more properly Musk duck, is a native of Brazil, South America, where it is still found in large numbers in its wild state. When wild these ducks are glossy black, with the wing coverts white. When domesticated it becomes lighter in color, with various mixtures of black, brown, and white. It is difficult to raise in its pure state, but with the Mallard or common river duck it breeds well, losing, however, that peculiar musky odor and taste which gave it its name. This odor proceeds from two small glands on either side of the bird's spine. These ducks have long bodies, short legs, and a very clumsy appearance on land. Their distinguishing mark is a large red tubercle or caruncle on the top of the bill at its base. The full-grown drake weighs from nine to ten pounds, but the duck is very much smaller.

#### QUEEN VICTORIA.

CHICAGO.  
What is the nationality of Queen Victoria? J. C.

*Answer.*—Queen Victoria was the only child of Edward, Duke of Kent, who was the fourth son of George III. She was born at Kensington Palace May 24, '19. Her mother was Victoria Mary Louise, fourth daughter of Francis, Duke of Saxe-Coburg-Saalfeld, and sister of Leopold, late King of the Belgians.

#### QUACK GRASS.

EMMETTSBERG, IOWA.  
I send you a specimen of grass that has appeared on my land for the first time this summer. Please give its name and qualities. W. L. L.

*Answer.*—The specimen offered is of the species known most commonly in this country as quack grass. It is also known in Europe as couch grass, dog grass, quickens, and squitch or quitch. Its botanical name is *triticum repens*. It is common in most parts of Europe and North America. It grows to a height of a foot and a half to two feet, and has two-rowed spikes and flat spikelets. It is a perennial, and its creeping root stocks make the grass very difficult of extirpation, so that it is generally regarded by farmers as a troublesome weed. It should be thoroughly rooted out of all lands used for cereals, but in pastures it serves a useful purpose in fixing loose sandy soils. It is not, however, regarded as a very nutritious grass. The



roots are sweet and mucilaginous, and in Italy are gathered for feeding horses. They have also been dried and ground into meal, in some parts of Southern Europe, in times of great scarcity. Among other uses, these roots have served to make a kind of cheap beer, and in many countries have an important part in domestic medicine.

#### THE HOMESTEAD LAW.

When was the homestead law first advocated in Congress, and by what party? By what party and when was it finally passed?

Ord. Neb.

Reader.

*Answer.*—The question of the distribution of the immense public domain of the United States was agitated in Congress from the early part of the century. The reader will find a very full account of the legislation concerning public lands prior to 1860 in Our Curiosity Shop book for 1887. These lands were sold by the Government at such low rates that they directly invited speculation, and between 1820 and 1850 schemes without number were proposed with the object of inducing their purchase by settlers. The first bill for granting pre-emption rights to actual settlers was introduced into Congress by Thomas H. Benton, in 1824, but it was rejected. The privilege of pre-emption, however, was sometimes conferred by special enactment. In 1840 a movement toward a permanent pre-emption law was started, and, says Alexander Johnston, "under the stimulus of the Presidential campaign of that year, in which the log-cabin, the symbol of frontier life, played an important part, the act of September, 1841—which was supplemented by the act of March, 1843—was passed by Congress." Under these laws pre-emption was confined to surveyed lands only, but by laws passed in 1853 and 1854 the privilege was extended to unsurveyed lands. The pre-emption laws were important in preparing the way for a homestead law. About 1850 or 1851 the idea of free homesteads began to be suggested. The scheme originated with the party known as the Free-Soil Democrats. This party, in its convention held Aug. 11, 1852, at which John P. Hale, of New Hampshire, and George W. Julian, of Indiana, were nominated for President and Vice President, declared that "the public lands of the United States belong to the people, and should not be sold to individuals nor granted to corporations, but should be held as a sacred trust for the benefit of the people, and should be granted in limited quantities, free of cost, to landless settlers. The advantages of the scheme were obvious, and it probably would have been readily adopted, had not the facilities it offered for colonizing the West with Free Soilers brought against it the opposition of the South. The vital question then forcing itself upon the people was the extension or non-extension of slavery in the territories, and party lines were becoming obliterated by the sharper marks of sectional division. Had the pro-slavery party of the South felt sure that it could utilize increased facilities for colonizing the great West as effectively as its opponents at the North could, it would have undoubtedly favored the scheme. As it was, this faction judged, and rightly, that the plan would act directly toward increasing the political power

of their enemies, and so opposed it. In 1852 and 1854 bills were brought before Congress for the distribution of the public domain to settlers, but they were promptly pushed out of sight. Early in 1859 a bill was brought before Congress giving heads of families the right to enter free of cost 160 acres of public land as homesteads. The general absorption of the Free-Soil Democrats in the newly formed Republican party caused the bill to be now recognized largely, though not absolutely, as a Republican measure. This bill passed the House, but was lost in the Senate. In 1860 a bill providing that a head of a family might enter upon a quarter section of land and, after the expiration of five years, might purchase the same at 25 cents per acre, passed both houses of Congress. It was, however, vetoed by President Buchanan on the plea that its provisions were unequal and unjust. An attempt was made to pass it over the President's veto, but it failed. In 1862 the homestead law, as it now exists, with subsequent amendments, was passed by both houses and signed by President Lincoln. It need not be said that it was passed by the Republican party, as that party alone at that date was effectively represented in Congress.

#### TWELFTH ILLINOIS CAVALRY.

Give a brief sketch of the Twelfth Illinois Cavalry. MINNEAPOLIS, Kan. J. A.

*Answer.*—The Twelfth Illinois Cavalry was organized at Camp Butler in February, 1862, and remained there, guarding rebel prisoners, until June 25, when it was mounted and sent to Martinsburg, Va. Sept. 5 it had its first skirmish with the enemy. Early in November the regiment was assigned to Sigel's army, and acted as its escort from Warrenton to Fredericksburg. After the disastrous battle at the latter place it was sent to Manassas, and thence to Dumfries. It had a brave share in the celebrated Stoneman raid, in which it traveled over 200 miles, lost two officers and thirty-three enlisted men, and destroyed over a million dollars' worth of the enemy's property. It was with Buford's division, which attacked Longstreet's Corps on the flank as it was hastening forward to engage Meade in the position he had chosen at Gettysburg. On the morning of July 4 the brigade to which the Twelfth was attached was sent to Williamsport, to hold the ford there against the enemy. After the retreat of Lee from Gettysburg the Twelfth followed the fortunes of the Army of the Potomac. It was present at the cavalry battles at Falling Waters, the Rapidan, and Stevensburg, acquitting itself well at all points. Nov. 20 it was ordered home to reorganize as veterans. Feb. 9, 1864, it started for St. Louis, whence it was sent to join General Banks in his retreat down the Red River. Subsequently it was returned to New Orleans, and was engaged in picket duty at several points through the summer. In September it was sent to Baton Rouge, in November was with an expedition to Liberty, Miss., and later took part in General Davidson's expedition against Mobile. Jan. 7 it returned to Baton Rouge, then went up to Memphis. In January went on a raid through South-eastern Arkansas. Returning to Memphis it was

on picket duty there till June, when it was sent to Alexandria, La. Thence it went to Hempstead, Texas, and then to Houston, where it was employed in guard and escort duty until May 29, 1866, when it was mustered out and sent home.

#### THE WOODROW CASE.

What was the Woodrow case, referred to by Professor Proctor in one of his articles in THE INTER OCEAN some time since?

*Answer.*—Professor Proctor refers to the Woodrow case as an instance wherein the discussion of the question of the origin of man "was confided to men professedly ignorant of the scientific considerations on which it depends." The instance was that of Dr. Woodrow, professor in the Presbyterian Theological Seminary in Columbia, S. C. During the early part of the year 1884 this gentleman was charged with teaching the evolution hypothesis as the true "origin of man;" in other words, of having adopted the Darwinian theory. The trustees of the seminary met, and though themselves not versed in science, they condemned the Doctor's opinions as false and contrary to Christianity, and dismissed him from the seminary.

#### NUMBER OF ELECTORS.

What has been the increase in the number of electors in each of the States during the past ten years?

*Answer.*—Herewith is given the number of Presidential electors to which each State was entitled in the Garfield campaign in 1880, and the number to which each State is now entitled:

State.	1880, 1888.	State.	1880, 1888.
Alabama.....	10 10	Missouri.....	15 16
Arkansas.....	6 7	Nebraska.....	3 5
California.....	6 8	Nevada.....	3 3
Colorado.....	3 3	New Hampshire..	5 4
Connecticut.....	6 6	New Jersey.....	9 9
Delaware.....	3 3	New York.....	35 36
Florida.....	4 4	North Carolina..	10 11
Georgia.....	11 12	Ohio.....	22 23
Illinois.....	21 22	Oregon.....	3 3
Indiana.....	15 15	Pennsylvania.....	29 30
Iowa.....	11 11	Rhode Island.....	4 4
Kansas.....	6 6	South Carolina..	7 9
Kentucky.....	12 13	Tennessee.....	12 12
Louisiana.....	8 8	Texas.....	8 13
Maine.....	7 6	Vermont.....	5 4
Maryland.....	8 8	Virginia.....	11 12
Massachusetts... 13	14	West Virginia..	5 6
Michigan.....	11 13	Wisconsin.....	10 11
Minnesota.....	5 7		
Mississippi.....	8 9	Total.....	369 401

#### THE MANDRAKE.

Why is the mandrake regarded with feelings of superstition? What are the real properties of the plant?

*Answer.*—The botanical name of the mandrake is mandragora, a name by which it is often referred to in poetry. The plant has a large, perennial root which is often divided into two or more forks, and bears a rude resemblance to a human body. This appearance caused the ancient superstition that it was endowed with animal feelings, and fabulous stories were told of its uttering loud screams when uprooted from the earth. The supposition was that it originally grow from the dead body of a murderer. Male and female varieties of the root were noted by early writers, and all united in declaring the process of removing one of these roots from the earth to be very dangerous. The histo-

rian Josephus says that the earth was first well dug away from the root of the plant, a cord was then fixed to it, and the other end tied round a dog's neck. The dog was then made to run, and by its struggles to get away it pulled up the root, but a moment after fell dead; and it was believed that the same fate would have befallen a human being had he uprooted the plant. The fruit of this plant was called the love-apple, from the ancient idea that it excited amorous inclinations; it was also believed to produce fecundity in women. Small pieces of the root used to be worn as love-charms, and love-philters were made of the juice of the flower and leaves. The goddess Venus is called by the old poets, Mandragoritis. The narcotic properties of the mandrake root were early discovered, and it was used as an opiate and anæsthetic. Thus Shakespeare makes Iago say to Othello after he has aroused his jealous passion:

"Not poppy, nor mandragora,  
Nor all the drowsy sirups of the world,  
Shall medicine thee to that sweet sleep  
Which thou ownest yesterday."

These stupefying qualities also probably gave rise to the superstition still held that a small dose makes a person vain and conceited, but that a large dose occasions idiocy. The mandrake is now used in medicine both as a narcotic and a purgative. The May apple of this country (podophyllum) is often wrongly called mandrake. It has a root resembling the foot of a web-footed animal, and not at all like that of the mandragora, and it has no narcotic properties.

#### SIXTH ILLINOIS CAVALRY.

HARTSVILLE, Ind.  
Give a history of the Sixth Illinois Cavalry.

*Answer.*—The Sixth Illinois Cavalry was organized at Camp Butler, Ill., Nov. 19, 1861, and was sent to the camp at Shawneetown, moving to Kentucky in the following February. During the spring and summer it operated against the guerrillas, and in the fall formed the advance of General Sherman's army in his movement into Mississippi. Was in winter quarters at Lagrange, Tenn., and in April following took part in the famous Grierson raid through Mississippi and Louisiana. In this expedition the regiment traveled some eight hundred miles, was engaged a number of times with the enemy, destroyed much property, and arrived safely at Baton Rouge, La., May 2, 1863, after a continuous march of seventeen days. Was under General Banks at the siege of Port Huron in June and July; then returned to Memphis, and in August went to Germantown, Tenn., where it took part in several raiding expeditions into the enemy's territory. In March the regiment re-enlisted as veterans, and after its return from furlough in May, was guarding railroads until August, when most of the regiment joined A. J. Smith's expedition to Oxford, Miss. It took a part in several subsequent scouting expeditions, and had more than one sharp brush with the enemy. Was at the battle of Franklin, Nov. 30, and in the fight at Nashville, Dec. 14-16. After this, was stationed



at various points, until it was marched in July, 1865, to Montgomery, Ala. Part of the regiment was now detached and stationed at other points. In November, 1865, the detachments were called together for muster out. Discharged at Springfield, Ill., Nov. 20, 1865.

## FACTS ABOUT RUSSIA.

**KANSAS CITY, Mo.**  
1. State the amount of wheat and other cereals annually exported from Russia. 2. Give the extent of her mineral productions and timber resources. 3. Also give a description of her educational system. **K. K.**

*Answer.*—1. The chief article of export from Russia is grain, mainly wheat. The total export of grain from Russia is steadily increasing, having risen from an average of 52,480,000 bushels in 1856-60 to 189,600,000 in 1876-83, and 212,988,600 in 1884. This increase does not prove, strange to say, an excess of grain, for even when one-third of Russia was famine-stricken, the export trade did not wholly decline, as the peasants are often compelled to reduce themselves to starvation to pay their taxes in grain. The cereal crop of 1885 for Russia is given in the Statesman's Year Book as wheat, 172,074,400 bushels; rye, 678,632,000 bushels; barley, 97,004,000 bushels; oats, 475,832,000 bushels; other grains, 100,394,000 bushels. This authority gives the total amount of grain and flour exported in 1883 at 229,367,200 bushels; 1884, 182,989,600 bushels; 1885, 212,176,640 bushels; 1886, 167,696,640 bushels. No authority within our reach divides the cereal export for those years. 2. Though Russia is very rich in mineral resources, the mines are but imperfectly developed. The chief reasons for this are the remoteness of the mines from the industrial centers, and the imperfect means of transportation, the want of technical instruction in mining, and also of capital to work them. Gold is obtained in Siberia, the Ural Mountains, Central Asia, and Finland; silver in Siberia, and a small quantity in the Caucasus; platinum in the Urals; lead, with the silver in Siberia; zinc in Poland, and tin in Finland. Copper is worked in parts of the Ural region, but the industry is a feeble one. Excellent iron mines exist in the Urals, and also throughout the Moscow and Dorietz basins, in the western provinces, in Poland, Finland, and in Siberia. The quantities of the leading minerals and metals produced in 1884 were as follows: Gold, 91,000 pounds; silver, 23,600; platinum, 5,480; lead, 1,544,000; zinc, 10,545,720; copper, 15,187,480; pig iron, 1,244,240,000; iron, 884,560,000; steel, 505,400,000; coal, 9,596,840,000; naphtha, 3,609,200,000; salt, 2,500,040,000. This yield by no means supplies the needs of the country, and large quantities of minerals are still imported, especially of coal, iron, copper, and zinc. Concerning the condition of the minerals in the country, the Statesman's Year Book for 1888 says: "The coal mines of the Don are yearly extending; in 1884 they occupied 13,950 men and 135 engines, the produce reaching 32,494,400 cwt. The next important coal fields are those of Kielce, in Poland, giving 33,111,100 cwt. The Caspian naphtha industry is also extending rapidly. The extraction of manganese ore is growing in the Caucasus. It reached 50,520,000 pounds, with 3,322,000 pounds in the Urals, in 1884. The number of persons engaged

in the mining and working of minerals was 330,752 in 1884, and the number of water and steam engines in the empire was 3,450, showing an aggregate of 100,000 horse-power. There is also considerable iron industry in Finland." Forests cover 40.3 per cent of the country in Russia proper, 25.2 in Poland, and 53.3 in Finland. In Siberia they also cover an immense proportion of the country. These are very unsystematically worked, but the average export reaches a value of about \$18,000,000. 3. Under the present ministry of public instruction Russia is divided into thirteen educational provinces, each presided over by a curator. The empire has nine universities, including that at Helsingfors, Finland. The Russian students are many of them very poor, and quite unable to take the university course without the aid of scholarships. There is a total of nearly 15,000 students in the universities. There are four free schools in the empire for the higher education of women; there was a medical academy for women, but it was closed by imperial authority. In 1884 there were in the empire—excluding Finland—524 secondary schools, with an aggregate of 90,952 pupils, and 326 schools for girls, with 60,969 pupils. Eleven superior schools have an aggregate of 2,497 students. The technical schools, agricultural, industrial, mining, and others, amount to a total of 455, with an average of 55,000 male, and 3,700 female pupils. There are also in the empire some 35,480 primary schools, with a total of over 2,000,000 pupils, and some 19,520 teachers. In 1884 there were 68 normal schools, with nearly 5,000 pupils. From all sources, including local and state appropriations, about \$25,000,000 is annually given to education. The mass of the great population of Russia has as yet but little education. In 1860 only two out of every hundred recruits levied for the army could read and write, but the proportion had largely increased in 1870, when eleven out of every hundred could read and write, and in 1882 nineteen in a hundred. In the grand duchy of Finland, which has a system of public instruction separate from that of the rest of the empire, education is all but universal, the whole of the inhabitants being able at least to read, if not to write.

## PEANUTS.

**PIERRE, D. T.**  
Tell me something about peanuts, where they come from, and especially how they are raised.  
**J. L. CLARK.**

*Answer.*—The peanut is a leguminous plant. It is also known by the names ground pea and ground nut, and in some parts of the Southern States it is called pindar, and elsewhere goober. The botanical name is *arachis hypogæa*. The exact nativity of the peanut is not known, but it is thought to be indigenous to Western Africa. It is cultivated in all tropical countries, most extensively perhaps on the west coast of Africa, where immense quantities are raised to supply the European market. It is largely cultivated in South America also, and in our Southern States is a very important crop. Two varieties of the nut are recognized—the Virginia nut, which is much the larger, and the Carolina or African. The plant is an annual, with many trailing branches, with small leaves, and small yellow flowers. After the

flower falls off from the end of each little branchlet, the pod which forms in its place is gradually forced into the ground by the elongation of its stalk. If this is prevented in any way the nut does not form, as it can only develop when covered with earth. For the cultivation of this favorite article of food—one is at a loss whether to class it among fruits or vegetables—good rich land, with an admixture of sand, should be selected. It should especially be free from red clay, as that stains the shells and lowers the quality and price of the nuts. In April the land should be marked off into furrows three feet apart, and in these two peas, deprived of their shells, are dropped at intervals of eighteen inches and covered an inch and a half deep. The young plants should be well weeded, and as soon as they begin to blossom the drills should be bedded up on each side. This is to afford a soft soil for the young nut to strike into. After the pods begin to bury themselves in the ground the crop needs no further attention until after the first frost, when it is generally ripe enough to harvest. The vines are dug with pronged hoes, allowed to lie a few days to dry, and then stacked in a shed to cure. After a fortnight or so they are whipped from the vines, cleaned in a fanning mill, and put into sacks for market. The natural nuts are of a very dark brown color with rough shells, but they are made more attractive by being passed through the fumes of burning sulphur, which whitens them, and carried a number of times through a revolving cylinder, which polishes them by attrition. These nuts yield in the South, where climate and soil are both favorable, about 100 bushels to the acre.

#### EATING CROW.

What is the origin of the phrase "Eating Crow," and why used in connection with political defeats?

ONEIDA, Kan.  
C. SHINN.

*Answer.*—The crow is a bird of unsavory flesh, and "eating crow" has come to mean the enforced doing of some unpleasant thing, especially the enforced confession of error or defeat. Analogous phrases are "eating humble pie," "eating one's own words," etc. Some persons have derived it from the French phrase, "eating dirt" (*manger le crotté*—pronounced *crot*), but the phrases are not exactly synonymous and the American phrase has a sufficiently forcible meaning as it stands. Two stories have been told to account for the possible origin of the phrase. It is possible that both are manufactured, but both are "good enough to be true," as the saying is. The first of these was given some forty years ago in the *Knickerbocker Magazine*. There was a thrifty boarding-house keeper—so the tale ran—who was disposed to be offended at his boarders whenever they criticised the fare before them. They were "too partikler," he said. "I kin eat anything," was his superior claim. "I kin eat crow." One of the boarders, with malicious desire for revenge, captured an old crow and hired the cook to prepare it for the table. To more effectually punish the boisterous landlord he seasoned it, not with pepper, but with snuff. When well roasted he brought the bird before his host and said: "My dear sir, you have declared a thousand

times that you could eat crow, now let us see you do it." The old man turned pale a moment, then bracing himself for the attempt said: "I kin eat crow," and cut off a large mouthful and ate it. A second bite was bravely disposed of in like manner, but before a third could be essayed the unfortunate host was obliged to retreat from the table hastily, muttering as he did so: "I kin eat crow, but hang me if I hanker arter it." The story given by C. L. Norton in his "Political Americanisms" is that of a young New Yorker who crossed the Niagara River to shoot on the land of an Englishman. He was caught by the proprietor, just after he had shot a crow, and compelled, on peril of his life to eat the bird. When twitted on the occurrence afterward his reply was that he "could eat crow, but did not hanker after it." *American Notes and Queries* gives a story, evidently modeled on this last, in which a Federal soldier and a Southern planter are the actors. Its apocryphal character is self-evident.

#### A TURNOCOAT.

What is the origin of the word turncoat, applied to one who changes his political opinions?  
WHEATON, Ind.  
X. Y. Z.

*Answer.*—It is said that the opprobrious epithet, turncoat, took its rise from one of the first dukes of Savoy, whose dominions were open to the contending powers of Spain and France. Being subject to frequent incursions of the rival powers, he was obliged to temporize and favor the powers alternately, as they seemed able or not to injure him. He therefore had a coat made that was blue on one side and white on the other, and might be worn indifferently with either side out. When he was ostensibly on the side of Spain, he wore the blue side out, but when the French were to be propitiated he displayed the white side. He therefore became known as Emmanuel the Turncoat, and was thus distinguished from other princes of his house bearing that name. The epithet has therefore come to be applied to those who turn their opinions around to suit their personal interests.

#### MIGHTY HAMMERS—TELEGRAPH SPEED.

1. What is the weight of the heaviest hammer ever made? 2. What is the most rapid rate of message transmission ever achieved by telegraph?  
WARREN, Ill.  
READER.

*Answer.*—1. An authority on scientific subjects gives the weights of the great hammers used in the iron works of Europe, and their date of manufacture, as follows: At the Terni Works, Italy, the heaviest hammer weighs 50 tons, and was made in 1873; one at Alexandrovski, Russia, was made the following year of like weight. In 1877, one was finished at Creusot Works, France, weighing 80 tons; in 1885, one at the Cockerill Works, Belgium, of 100 tons, and in 1886, at the Krupp Works, Essen, Germany, one of 150 tons, the latter being the heaviest hammer in the world. 2. The speed of transmission with the first electric telegraph was from four to five words a minute. In 1849 the average rate for newspaper messages was seventeen words a minute. The present pace of the electric telegraph between London and Dublin, where the Wheatstone instrument is employed, reaches 463 words, and thus what was regarded as miraculous



sixty years ago has multiplied a hundredfold in half a century.

#### VOLCANOES—THEIR NUMBER AND DISTRIBUTION.

CHICAGO.  
Give the number of volcanoes in the world, their names and their location. I know of but three, Hecla, Vesuvius, and Etna. SUBSCRIBER.

*Answer.*—Volcanoes differ greatly in their dimensions, some being vast mountain masses, rising thousands of feet above the sea level; others are mere mole-hills. They also exhibit every stage of development and decay, some being in a state of chronic eruption, others only showing activity at long intervals, and yet others having been so long dormant that they can fairly be regarded as extinct. The number of great habitual volcanic vents on the globe, still known to be in action, is estimated at between 300 and 350. Most of these are marked by mountains of less or greater size. The very unequal distribution of these volcanoes is a fact worth noting. Thus there is but one "habitual volcanic vent" on the continent of Europe, this is Vesuvius, on the shores of the Mediterranean Sea. On the islands of the Mediterranean, however, there are no less than six active volcanoes; Stromboli and Vulcano, on the Lipari Islands; Etna, in Sicily; Graham's Isle, a submarine volcano off the Sicilian coast; and Santorin and Nisyra in the Egean Sea. The African continent is known to contain about ten active volcanoes, four on the west coast and six on the east coast; about ten other active volcanoes occur on islands close to the African coasts. In Asia there are twenty-four active volcanoes, but no less than twelve of these are situated on the peninsula of Kamchatka. No volcanoes have been found on the Australian continent. The American continent has more volcanoes than the continental divisions of the Old World. There are twenty in North America, twenty-five in Central America, and thirty-seven in South America. This summary shows about 117 volcanoes on the continents of the globe: on the islands of the ocean there are nearly twice as many. Volcanoes, it should be noted, are, in almost every instance, on the sea-coast line, or at no great distance from it. There are but two exceptions to this rule. One is a group of volcanoes said to exist in the great table land between Siberia and Thibet, the other is in the Sandwich Islands: The oceanic or insular volcanoes may be separated into three distinct series, whose courses are marked by submarine ridges. Thus through the midst of the Atlantic Ocean there extends a ridge, which, ocean soundings seem to show, divides that body of water into two basins. The mountain masses which rise from the ridge, and the spurs branching from it, form the islands of the Atlantic Ocean, all of which are of volcanic origin, and some of which have active volcanoes upon them. The island of Jan Mayen contains an active volcano, and Iceland has thirteen, and perhaps more; the Azores have six active volcanoes, the Canaries three, while about eight volcanoes lie off the west coast of Africa. In the West Indies there are six, and three submarine volcanoes have been found elsewhere, so that on the great submarine ridges that divide the Atlantic basin longitudinally, there are no less than forty active volcanoes, and it is believed that the extinct

volcanoes on the same line constitute a much greater number. Geologists assure us that in an earlier period of the earth's history the whole line of the Atlantic Ocean was in all probability traversed by a chain of volcanoes on the very grandest scale; these are now submerged, and only a few mountain tops of this range remain, showing above the sea level. The second great series of oceanic volcanoes extends between the Pacific and Indian Oceans, and is in a condition of the greatest activity throughout. In the peninsula of Kamchatka there are, as we have said, twelve active volcanoes; there are ten in the chain of the Kurile islands; the Japan islands and the Liuku islands to the southward have twenty-six; and in the great group of islands southeast of the Asiatic continent there are no less than fifty active volcanoes, showing what is now the "grandest focus of volcanic activity on the globe." East and west of this great central focus extend two principal branches. The first of these extends through the Navigator Islands and Friendly Islands, as far as Elizabeth Islands. The other passes through Java, and then turns north-westward through Sumatra, the Nicobar Islands, and the Andaman Islands, nearly up to the coast of Burmah. The principal chain appears to be continued south by the four active volcanoes of New Guinea, volcanic openings in New Britain, the Solomon Islands, and the New Hebrides, three active volcanoes on New Zealand, and possibly by Mount Erebus and Mount Terror in the Antarctic Regions. Altogether there are probably 150 active volcanoes in the chain of islands stretching from Kamchatka down to the Antarctic, and Professor Judd asserts that if the openings on Indian and Pacific Islands branching from this line be included, "this system includes at least one-half of the habitually active volcanic vents of the globe." A third series of volcanoes also starts from Behring's Straits, and stretches along the western coast of North America. This includes thirty-one volcanoes in the Aleutian Islands, three on the peninsula of Alaska and several in British Columbia, one of which, Mount St. Elias, is 18,000 feet in height. Others exist in the territory drained by the Columbia River, and throughout the Rocky Mountains, though volcanoes are few, there are traces of volcanic activity in the numerous hot springs and geysers. Further south there is an almost continuous chain of volcanoes stretching through Mexico and Guatemala, and from this part of the volcanic band a branch runs to the West Indies, as though connecting it with the great volcanic band of the Atlantic Ocean. In South America there are active volcanoes in Ecuador, Peru, Bolivia, and Chili, and a number of dormant and extinct volcanoes occur throughout the Andes, filling up the gaps. An offshoot of this band to the westward extends to the Galapagos Islands. This series of volcanoes contains upward of eighty active vents. Of these three great volcanic bands, that running along on the west line of the Pacific Ocean is 10,000 miles in length, with volcanic action nearly continuous; the second is 8,000 miles long, with action more broken and interrupted; the third is nearly 1,000 miles, showing action but occasionally, and this with indications of ap-

proaching extinction. There is also a subordinate series of volcanoes on the eastern coast of Africa, which has vents on the islands of Mauritius and Bourbon and also along the line of the Red Sea. All these volcanoes, in groups and series, follow the line of the sea coast or follow definite lines through the sea. As to the exceptional groups of volcanoes, so called, that on the Sandwich Islands is noteworthy because it seems to be altogether distinct from the volcanic bands of the Pacific. Further, it does not lie near the coast line, but in the center of the island, and seems to rise from the greatest depths of the ocean. There are several volcanic cones here that rise nearly 14,000 feet above the sea level, and the crater of one—Kilauea—is the largest on the globe. The Central Asia volcanoes rise from the plateau of the Thian Shan range. Two large active volcanoes are said to be there, known as Boschan and Turfan, and another, now inactive. About half-way between this group of volcanoes and the sea, there is said to be another active vent, in the Chinese province of Manchuria. But we know very little of the actual history of these volcanoes.

The following table shows the height, names and locations of twenty-four of the loftiest volcanoes of the world:

Name of volcano.	Height in feet.	Where located.
Sahama.....	23,000.	Peru.
Llullailao.....	21,000.	Chili.
Arequipa.....	20,500.	Peru.
Cayambi.....	19,813.	Ecuador.
Cotopaxi.....	19,500.	Peru.
Antisana.....	19,200.	Ecuador.
San Jose.....	18,150.	Chili.
Mt. St. Elias.....	17,900.	Alaska.
Popocatepetl.....	17,884.	Mexico.
Orizaba.....	17,370.	Mexico.
Altar.....	17,126.	Ecuador.
Sangai.....	17,120.	Ecuador.
Klitcheoskaia.....	16,512.	Kamchatka.
Iztacihuatl.....	15,700.	Mexico.
Toluco.....	15,500.	Mexico.
Shasta.....	14,400.	United States.
Fujiyama.....	14,000.	Japan.
Mauna Kea.....	13,953.	Sandwich Islands.
Mauna Loa.....	13,760.	Sandwich Islands.
Teneriff.....	12,236.	Canary Islands.
Mt. St. Helens.....	12,000.	United States.
Mt. Hood.....	11,225.	United States.
Peak of Tahiti.....	10,895.	Friendly Islands.
Mt. Etna.....	10,874.	Sicily.

Three of the best known volcanoes of the world, Vesuvius, 3,978 feet; Hecla, 3,970 feet, and Stromboli, 3,000 feet, are of much less elevation than many others altogether unfamiliar.

#### THE COUNT OF PARIS.

Give a brief sketch of the Comte de Paris, and tell his connection with the main branch of the Bourbon family.

CHICAGO.

R. L. NUNN.

*Answer.*—The Comte de Paris belongs to the Orleans branch of the Bourbons, and is the eldest grandson of Louis Philippe, who was King of the French people from 1830 to 1848. The Orleans branch of the Bourbons was descended from a brother of Louis XIV. The Comte's full name is Louis Philippe Albert d'Orleans. He was born Aug. 24, 1838, and was but 10 years old when his family was driven into exile by the revolution of 1848. Brought up and educated in England, he came, when a young man of 23, to America, accompanied by his uncle, the Prince de Joinville,

and his brother, the Duc de Chartres. These three took service under McClellan in the Army of the Potomac. In view of possible trouble between France and the United States in regard to Mexico, the Princes resigned at the conclusion of the first campaign and returned to England. Soon after his return the Count married his cousin, Princess Marie Isabella, daughter of the Duc de Montpensier, the fifth son of King Louis Philippe, and resided in England most of the time till the Franco-Prussian war overthrew the second empire. He showed no disposition to put himself forward with the Royalists, but submitted to the republic, and served in the Chamber of Deputies before the law was passed excluding his family. By the death of the Comte de Chambord in 1883 he became heir to the claims of the elder, as well as the younger branch of the Bourbon family. He was of a studious disposition, and was occupied in writing a history of the American civil war. In 1886 his daughter was married to the son of the King of Portugal. This so alarmed the Republicans of France that they pushed a law through the assembly, expelling all members of former dynasties from France. Previous laws had cut them off from all military and civic honors, but that was not enough. The Comte retired to England, where he now lives.

#### ATTAINER.

What is a bill of attainder, and why is it forbidden by the Constitution of the United States? Explain the expression "attainder of treason."

READER.

*Answer.*—The word attainder is from the French word *teindre*, meaning to stain. According to the old English law, when a person was condemned to death for treason or felony, or had been outlawed for any crime, he was deprived of all his civil rights, and all his estates were forfeited to the government. This was called attainder, and the person thus punished was said to be "attainted." Parliament might also thus deprive an offender of rights, and the act was called a "bill of attainder." Not only did those convicted of high treason forfeit all their possessions both real and personal and all their individual rights as citizens of the state, but the offense also worked "corruption of blood," that is, the descendants of the offender could not inherit any of his property, nor any civil right that had been his. The disabilities created by the corruption of blood could only be removed by act of Parliament. The bill of attainder, as passed by the English Parliament, was a legislative conviction with judgment of death. Sometimes evidence was heard on the case but not often, for the object of the act was to secure conviction without waiting for legal proof of guilt. The first recorded use of the bill of attainder by Parliament was in 1321, when Parliament wished to rid the country of the unpopular favorites, the Despencers. Its last use was in 1697 when Sir John Fenwick was attainted and executed for participation in the assassination plot. In the 370 years intervening, the plan had been used very often to dispose of persons obnoxious to Parliament. A milder form of the same method of procedure was adopted in the so-called "bills of pains and penalties," by which a punishment



less than death was inflicted. The founders of our government distinctly prohibited the passage of any such laws for two reasons: first, because of the injustice of such legislative acts; and, secondly, from the fear that the power to inflict such punishment might, in the hands of a popular legislature, lead, during times of political excitement, to great abuse. The Federal Constitution declared that no bill of attainder shall be passed either by Congress or by any State. As, however, the courts might claim the power to convict of treason or to declare attainders, the Constitution still further protected personal liberty by providing that Congress should have power to declare the punishment of treason, but that no attainder of treason should work corruption of blood or forfeiture except during the life of the person attainted. In some cases brought about by our civil war, the United States Supreme Court has decided that, by the meaning of the Constitution, bills of pains and penalties are included in the prohibition of bills of attainder.

## FIRST TELEGRAPH TO AUSTRALIA.

EVANSTON, ILL.  
When was telegraphic communication between England and Australia opened? R. G.

**Answer.**—Communication between England and Bombay, India, was opened in March, 1865. About 1870 a cable was laid between Bombay and Java, and less than two years later a cable from Port Darwin, North Australia, to Java was completed. From Port Darwin a line was laid across the center of the great Australian desert to the city of Adelaide. Aug. 22, 1872, the last mentioned line was completed. The first communication over this entire line was made in the form of a message from the Mayor of Adelaide to the Lord Mayor of London, transmitted and appropriately answered Oct. 21, 1872.

## SENT TO COVENTRY.

CHICAGO.  
What is the real meaning and origin of the phrase "To send to Coventry?" STUDENT.

**Answer.**—The phrase, often seen in English books, and very common in Great Britain, though less familiar here—to send one to Coventry—means to take no notice of a person, to let him live with you if necessary, but never to speak to him, to pay no attention to anything he says—in a word, to ignore his existence totally. It is a common method adopted by boys in English schools to punish an unpopular companion, and no one need be told what torture the enforced loneliness is to a lad. The term is taken from the army, where the custom has been in use for so long a time that there is no record of its beginning. It is the soldier's method of making a disgraced comrade feel his punishment more acutely, or of avenging some violation of the code of honor, which is not reached by the disciplinary methods of the regiment. Chambers' Cyclopaedia gives the following derivation of the custom and phrase: "The citizens of Coventry had at one time so great a dislike to soldiers that a woman seen speaking to one was regarded as outside the pale of respectable society ever after. No intercourse was ever allowed between the garrison and the town; hence when a man was sent to Coventry he was cut off from all social enjoyments." Another origin of this phrase is given by Hutton, an English histo-

rian. He says that Coventry was a stronghold of the Parliamentary party in the civil wars, and that all troublesome and refractory royalists were sent there for safe custody. It may be noted that the old punishment of excommunication and that of the modern boycott, are both essentially that of "being sent to Coventry," i. e., cut off from all natural intercourse with those with whom one lives.

## THE POPULAR VOTE IN 1860.

OREGON, ILL.  
Will Our Curiosity Shop state the popular vote by States, for Lincoln, Douglas, Breckenridge, and Bell? I have looked in everything that it would seem it ought to be found, but can not find the desired information. W. F. HAWTHORN.

SHELBYNA, Shelby Co., Mo.  
How many States did Stephen A. Douglas carry when running against Lincoln in 1860? H. M. BARLOW.

**Answer.**—The star (\*) indicates a fusion. The omission of South Carolina is due to the fact that that State chose its electors for President by the Legislature, and not by popular vote.

STATE.	Lincoln.	Douglas.	Breckenridge.	Bell.
Alabama.....	.....	13,651	48,831	27,875
Arkansas.....	.....	5,227	28,732	20,094
California.....	39,173	38,516	34,334	6,817
Connecticut.....	43,792	15,522	14,641	*3,291
Delaware.....	3,815	1,033	7,337	3,864
Florida.....	.....	367	8,543	5,437
Georgia.....	.....	11,590	51,889	42,886
Illinois.....	172,161	160,215	2,404	4,913
Indiana.....	139,033	115,509	12,295	5,306
Iowa.....	70,409	55,111	1,048	1,763
Kentucky.....	1,364	25,651	53,143	66,058
Louisiana.....	.....	7,625	22,681	20,204
Maine.....	62,811	26,693	6,368	2,046
Maryland.....	2,294	5,966	42,482	41,760
Massachusetts...	106,533	34,372	5,939	22,331
Michigan.....	85,480	65,057	805	405
Minnesota.....	22,069	11,920	743	62
Mississippi.....	.....	3,283	40,797	25,040
Missouri.....	17,028	58,801	31,317	58,372
New Hampshire...	37,519	25,881	2,112	441
New Jersey.....	58,324	*62,801	.....	.....
New York.....	362,646	*312,510	.....	.....
North Carolina...	.....	2,710	48,539	44,990
Ohio.....	231,610	187,232	11,405	12,194
Oregon.....	5,270	3,951	5,066	183
Pennsylvania.....	268,030	16,765	*178,871	12,776
Rhode Island.....	12,244	*7,707	.....	.....
Tennessee.....	.....	11,350	64,709	69,274
Texas.....	.....	.....	47,548	*15,438
Vermont.....	33,808	6,849	218	1,969
Virginia.....	1,929	16,290	74,323	74,681
Wisconsin.....	86,110	65,021	888	161

## ONE HUNDRED AND TWENTY-FOURTH ILLINOIS INFANTRY.

GORDON, Neb.  
Give brief history of the One Hundred and Twenty-fourth Illinois Infantry. SUBSCRIBER.

**Answer.**—The One Hundred and Twenty-fourth Illinois Volunteer Infantry was raised in August, 1862, and was mustered into service Sept. 10 at Camp Butler. Oct. 6 it left for Jackson, Tenn., where it was assigned to the First Brigade, Third Division, Seventeenth Army Corps. It was with the movement made by General Grant in the rear of Vicksburg in the November following, thence returned to Memphis, whence, in February, it moved with General Haynie's brigade to Lake Providence, La. In April it joined General

Grant's army, then moving on Vicksburg. Was in the battles of Port Gibson, Raymond, and Champion Hills, in the last-named engagement losing sixty-three men in killed and wounded. In the charge of May 22 before Vicksburg this regiment occupied the extreme advance position, was directly in front of the fort which was mined, and lost forty-nine men in killed and wounded in the first explosion. After the city was taken, it shared with the other regiments of the First Brigade the honor of first entering the city. In August, was sent with an expedition to Monroe, La., and in October against Brownsville. Jan. 23, 1864, the regiment distinguished itself by winning a prize banner offered by General Leggett to the best drilled regiment in the division. Was with Sherman in his famous Meridian raid; from April 5, 1864, to Feb. 25, 1865, was encamped at Vicksburg, the most of the time on provost duty. Then was ordered to New Orleans, and took part in the Mobile expedition; after the capture of that city was sent to Montgomery, Ala., and put on provost duty. July 16 it started for home, and Aug. 16 was mustered out of service at Camp Douglas, Chicago.

#### ELECTRICAL TERMS.

CHICAGO.

Works on electricity speak of farads, watts, amperes, etc. What do these terms mean and how are they derived?

STUDENT.

*Answer.*—The technical terms used in regard to electricity refer to units of various nature. Thus the unit of capacity is one farad; the unit of activity, one watt; the unit of work, one joule; the unit of quantity, one coulomb; the unit of current, one ampere; the unit of resistance, one ohm; the unit of magnetic field, one gauss; the unit of pressure, one volt; the unit of force, one dyne. These names are mostly derived from the names of men that have been famous in the field of electrical research. Thus Michael Faraday, James Watt, and James P. Joule, famous English discoverers, give their names to the first three units mentioned; Charles A. Coulomb and Andre M. Ampere, French inventors, to the two units following; G. S. Ohm and Carl F. Gauss, Germans, name two more units; and the volt is named from the Italian discoverer Volta. The dyne is derived from the root word of dynamo, itself meaning force.

#### GASCONADE—NAMBY-PAMBY.

CHICAGO.

1. What is the origin of the word "gasconade," as applied to loud, boasting talk? 2. Why is anything silly and childish said to be "namby-pamby?"

L. M. G.

*Answer.*—1. The Gascons, or inhabitants of Gascony, France, claimed to be of very ancient descent, and, though so poor that their impecuniosity became a proverb in all neighboring provinces, were the most absurd boasters possible. When they went to Paris they indulged in the most extravagant tales of the grandeur of their ancestral residence and the wealth and dignity of their families. When the Parisian, who heard these stories, happened to be acquainted with Gascony, he was greatly amused, of course. As a sample of their powers of exaggeration it is said that a Gascon adduced as proof of his nobility the assertion that in his father's castle no other fuel was used than the batons of the family marshals. An-

other, when asked what he thought of the Palace of the Louvre, said: "It's a nice place; it reminds me of my father's stables." From this and similar illustrative anecdotes, the Parisians styled vain-glorious boasting of one's self, one's achievements and family, as "gasconade." 2. The poet Pope is credited with originating the word "namby pamby." He applied it to some puerile verses *ha* had been written by an obscure poet—one Ambrose Phillips—addressed to the children of a peer. The first half of the word is meant as a baby way of pronouncing Amby—a pet nickname for Ambrose, and the second half is just a jingling word to fit it. Namby-pamby verse or prose is understood to be especially fitted for infantile comprehension.

#### GOVERNMENT OF FRANCE.

FRANKLINTON, N. Y.

Give a brief resume of the system of government in France, also the standing and principles of the present political parties and the names of the present officers.

I. L. BRAXMAN.

*Answer.*—France is what has been called "a limited democracy, with aristocratic appendages." To fully understand its character we must remember that it is a unified state, that is, one in which the National Government has the responsibility of looking after public affairs all over the country. This distinguishes it in many important particulars from those countries which, like our own, are federative, and the power of the central government is limited by those of included states. Of course, in France, there are local authorities to look after local matters, but this does not lessen the power of the central government to overrule any decision or action of a local body at its pleasure. The constitution of the French Republic was adopted Feb. 25, 1875, and revised in August, 1884. By it the legislative power is vested in the Chamber of Deputies and the Senate, and the executive is the President of the republic. The Deputies are elected by universal suffrage, under the plan called "scrutin de liste," adopted by the National Assembly in 1885. Each department—there are eighty-seven in all—forms one electoral district and chooses Deputies in the ratio of one to each 70,000 inhabitants—foreigners excluded. The total number of Deputies is now 584, of whom sixteen are sent from French colonies. To have the right to vote at Deputy elections a man must be 21 years of age, and have been a resident for two years in his town or canton. The only requisite for a Deputy is to be a citizen and 25 years of age, but members of families who have reigned in France are forever ineligible for this election. The Senate is composed of 300 members, of whom seventy-five were elected for life by the original constitution, but by the revision of 1884 it was provided that vacancies among the existing life Senatorships should be filled, as they occurred, by the election of ordinary Senators for the term of nine years. Every three years one-third of the Senators retire and their places are filled by new members. The Senators are elected by delegates chosen by the communes or municipalities of France, who act in conjunction with the members of the departmental councils, and the deputies of the department, in making the choice. No other quali-



cation is required for a Senator than to be a Frenchman, 40 years of age, and not a member of a deposed dynasty, or a general or admiral on active service. The two houses form the National Assembly, which meets each year on the second Tuesday in January, unless previously called together by the President, and they must remain in session at least five months in the year. The Deputies serve four years, and both Deputies and Senators are paid for their services, the former drawing a salary of \$1,800, the latter \$3,000 a year. The President is elected by a majority of the votes of the Senate and House of Deputies, for a term of seven years, and he is eligible for a second term or more. He has the power of appointment to all civil and military posts and he has, as advisers, a cabinet of ten members. The present Chief Magistrate of the French Republic is M. Sadi-Carnot, who was elected Dec. 3, 1887. The last ministry was appointed March 30, 1888, under the Premiership of M. Charles Thomas Floquet. The French Cabinet is very unstable, as whenever one of its measures is overthrown by an adverse vote in the Chamber its members are bound to resign. Often the term of official life for a cabinet is limited to a few weeks or even days, as adverse votes from an assembly including so many shades of political opinion are the rule rather than the exception. For a full account of the various political parties in France, see Our Curiosity Shop book for 1887.

#### THE SIBERIAN EXILE SYSTEM.

DENISON, IOWA.  
Give some facts concerning the country of Siberia, and tell about the Russian exile system. Is it true, as has been recently asserted, that this system is soon to be abolished? READER.

Answer.—For a full account of the population of Siberia and its government, see Our Curiosity Shop book for 1886. The working of the exile system has been comparatively little known to Americans until recently. George Kennan, an American traveler, two years ago, undertook a journey of investigation through Siberia under the auspices of the Century Company, New York, and his articles on the subject are now in course of publication in the *Century Magazine*. The system of exile to Siberia is used for two purposes—first, for the punishment of actual criminals, vagrants, and other worthless characters, and, secondly, as "a means of preventing crime against the existing imperial order," that is, putting all persons whose opinions are not approved of out of the way of doing harm by the expression of these opinions. In the case of criminals, there is some preliminary legal process, by which the offender is convicted of crime, but in the case of political and religious exiles legal forms are generally dispensed with and the exile is conducted by "administrative process." This process, Mr. Kennan says, "means the banishment of an obnoxious person from one part of the empire to another, without the observance of any of the legal formalities that, in most civilized countries, precede or attend deprivation of rights and the infliction of punishment. The person so banished may not be guilty of any crime, and may not have rendered himself in any way amenable to any law of the state, but if, in the opinion of the local authorities, his presence in a particular place

is 'prejudicial to social order,' he may be arrested without a warrant, and with the concurrence of the minister of the interior, may be removed forcibly to any other place within the limits of the empire and there be put under police surveillance for a period of five years. He may or may not be informed of the reasons for this summary proceeding, but in either case he is perfectly helpless. He can not examine the witnesses upon whose testimony his presence is declared to be 'prejudicial to social order.' He can not summon friends to prove his loyalty and good character without great risk of bringing upon them the same calamity which has befallen him. He has no right to demand a trial, or even a hearing. He can not sue out a writ of habeas corpus. He cannot appeal to the public through the press. His communications with the world are so suddenly severed that sometimes even his own relatives do not know what has happened to him. He is literally and absolutely without any means whatever of self-protection." The cruel injustice often perpetrated under this arbitrary system is well depicted by Mr. Kennan, who visited many of the exile stations and conversed with the exiles. As far as concerns the probable abolition of the exile system, Mr. Kennan is of opinion that any such change is extremely unlikely, either now or for many years to come. The rumor of such a change has arisen from the fact that the Russian Imperial Council has now under consideration a plan for certain changes in the penal administration. We condense the following facts, as concerns this point, from Mr. Kennan's statement of the case: The annual shipments of criminals to Siberia—a total of from 10,000 to 30,000—may be roughly divided into five great classes, thus: Hard-labor convicts, 15.16 per cent of the whole; compulsory colonists, 27.73 per cent; communal exiles (that is, persons exiled on account of general bad character by their communes) 36.66 per cent; vagrants, 16.80 per cent; and, lastly, political and religious exiles, 3.60 per cent. When this body of offenders reaches Siberia the hard-labor convicts and vagrants are imprisoned, and all the others, with but few exceptions, are liberated, to take care of themselves as they can. Naturally, this enforced colonization among them yearly of 7,000 or 8,000 persons of various grades of worthlessness and criminality, has been felt as a great burden by the people of Siberia. The governors of the provinces, the mayors of the cities, all have petitioned the Russian Government, again and again, to free them from this hindrance to their prosperity and source of demoralization to their people. At last the pressure became so strong that the chief of the prison department undertook to prepare a scheme for a reform in the mode of colonization. The object of this, it was frankly avowed, was not to free Russia from the stigma of the cruel exile system or to spare the exiles themselves any part of the injustice which they suffer, but to render the system "less objectionable to the Siberian people and less burdensome to the commercial interests of an important colony." The scheme pro-

poses four changes only in the system: 1. To substitute imprisonment in European Russia for forced colonization in Siberia, and retain the latter form for certain offenses only. 2. To send vagrants into hard labor on the island of Saghalien. 3. To deprive village communities of the right to banish peasants who return to their homes after serving out a term of imprisonment for crime. 4. To retain communal exiles, but to compel each commune to support for a term of two years the persons whom it exiles, by paying 5 cents a day for them. Mr. Kennan is of opinion that even this very limited measure of reform, which does not touch the worst features of the system, is not likely to be adopted by the Russian Government.

#### TORQUEMADA.

PROPHETSTOWN, ILL.

What is the verdict of history upon Torquemada, Grand Inquisitor of Spain? Give the facts of his life. I. H.

*Answer.*—Tomás de Torquemada was born at Torquemada, Spain, about 1420. He became a Dominican monk, and prior of the monastery in Segovia. In 1493 he was made the first inquisitor-general of Spain by King Ferdinand. His remarkable organizing ability gave this institution a terrible power, and he manifested such excessive bloodthirstiness that Pope Alexander was obliged to give him four colleagues of milder temperament to moderate his zeal. Torquemada held the office of inquisitor general for sixteen years, and during this time, according to the historian Llorente, in his "Critical History of the Spanish Inquisition," no less than 8,800 victims were burned at the stake, 90,000 were condemned to perpetual imprisonment and other cruel punishments, and 800,000 Jews were banished from Spain. Torquemada died in Avila, Sept. 16, 1498. The historian Prescott expresses some surprise that a man guilty of so many crimes against his kind should be allowed to live to advanced age, as this man did, and at last die quietly in his bed. Through the later years of his life, however, he was in constant fear of assassination. The verdict of history concerning Torquemada is fairly given by Prescott when he says: "This man, who concealed more pride under his monastic weeds than might have furnished forth a convent of his order, was one of that class with whom zeal passes for religion, and who testify their zeal by a fiery persecution of those whose creed differs from their own; who compensate by their abstinence from sensual indulgences by giving scope to those deadlier vices of the heart, pride, bigotry, and intolerance, which are no less opposed to virtue, and are far more extensively mischievous to society." And of his zeal, which some apologists might hold to extenuate his cruelty, Prescott says: "The man's zeal was of such extraordinary character that it may almost shelter itself under the name of insanity. His history may be taken to prove that of all human infirmities, or rather vices, there is none productive of more extensive mischief to society than fanaticism. \* \* \* This trait is so far subversive of the most established principles of morality that under the dangerous maxim, 'For the advancement of the faith all means are lawful,' which

Tasso has rightly, though perhaps undesignedly, derived from the spirits of hell, it not only excuses, but enjoins the commission of the most revolting crimes, as a sacred duty. The more repugnant, indeed, such crimes may be to natural feeling, or to public sentiment, the greater their merit, from the sacrifice which their commission involves. Many a bloody page of history attests the fact that fanaticism, armed with power, is the sorest evil that can befall a nation."

#### THE TUN OF HEIDELBERG.

EVANSTON, ILL.

What are the dimensions of the celebrated tun of Heidelberg?

STUDENT.

*Answer.*—It is said that at Heidelberg, Germany, on the river Neckar, near its junction with the Rhine, a very large wine cask was made in 1843, whose capacity was twenty-one pipes or 2,646 gallons. This was probably destroyed, as a new one was made in its place, in 1664, which would hold 600 hogshheads or 37,800 gallons. This the French emptied and knocked to pieces in 1688. But a much larger vessel was made early in the eighteenth century, whose capacity was 50,400 gallons. For many years it was kept full of the best Rhenish wine, which flowed freely during the merry-makings of the electors, but of late years it has not been in use. A recent traveler says: "This convivial monument of ancient hospitality is now but a melancholy, unsocial, solitary instance of the extinction of that virtue; it molders in a damp vault, quite empty." It may be noted that this Heidelberg tun is only interesting because of its antiquity and mention in literature, as the modern inventions for the manufacture of liquor on a very large scale have caused the construction of even larger casks to be quite a common thing. The largest vessel of this kind in existence, however, is one made at Königstein, Germany, in 1725, by Frederick Augustus, King of Poland and Elector of Saxony. This holds 233,654½ gallons. The top of this vessel is railed in, and affords room for twenty persons to sit and enjoy their cups. All strangers are offered a "welcome cup" of the liquor from this mighty cask; and on its side is engraved a Latin couplet, inviting visitors to drink "to the prosperity of the universe."

#### NINETY-FIFTH NEW YORK INFANTRY.

WORTH, ILL.

Give an account of the Ninety-fifth New York Volunteer Infantry. S. E. W.

*Answer.*—The Ninety-fifth New York Infantry was one of the three-years' regiments organized at New York City, and was mustered in during the latter part of 1861. It was at the battles of Gainesville and Second Bull Run, and had a share in the bloody fights at South Mountain and Antietam. It was also at Fredericksburg, at Chancellorsville, and Gettysburg. It was with the Army of the Potomac when the movement southward began; was in the battles of the Wilderness, at Spotsylvania, North Anna, and in the engagement before Petersburg. In the latter part of 1864, part of the regiment re-enlisted. Those who did not were mustered out, but the organization of the regiment continued, with veterans and new recruits, until the final muster-out July 16, 1865.



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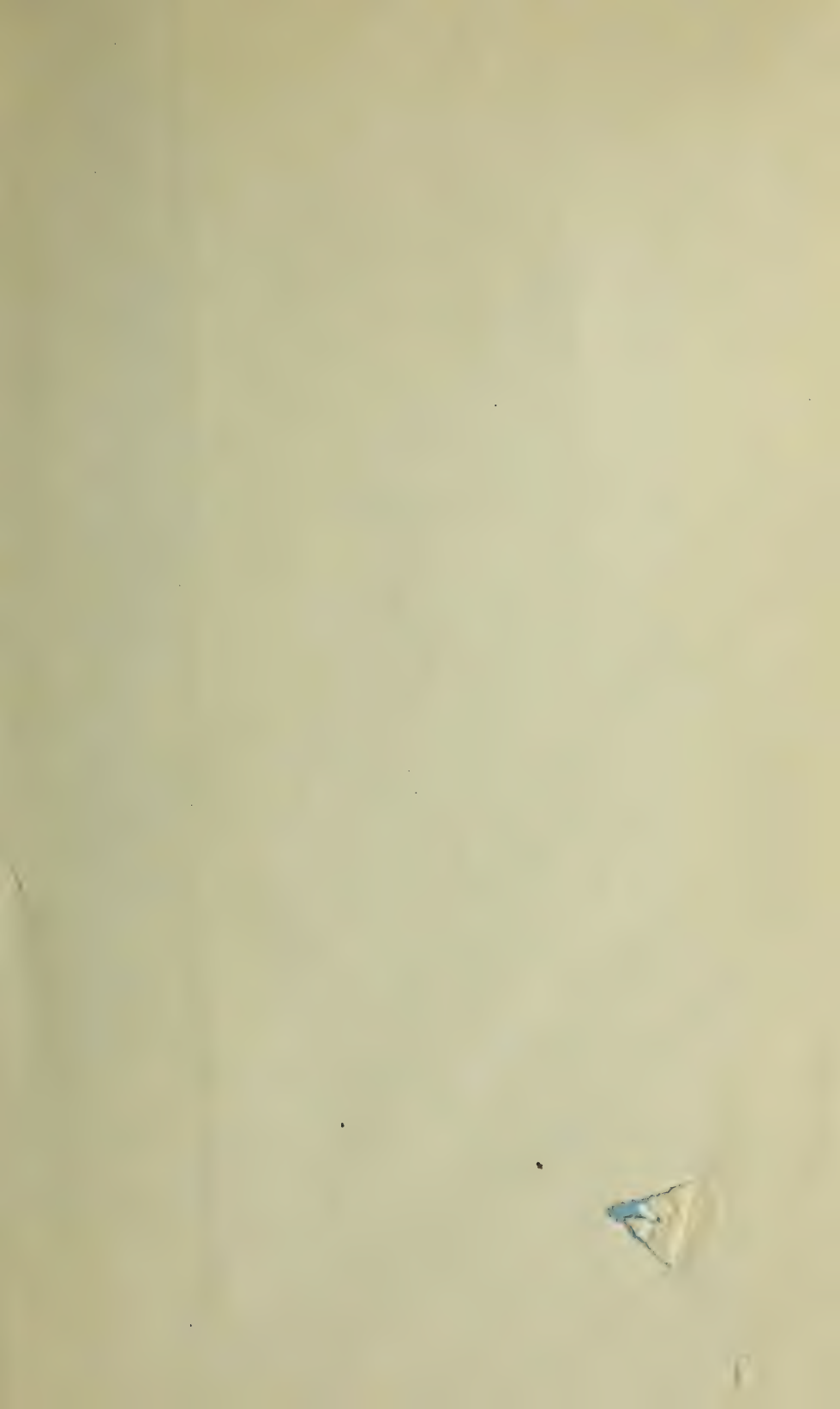
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